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Oferty technologiczne sieci EEN

Obróbka skrawaniem

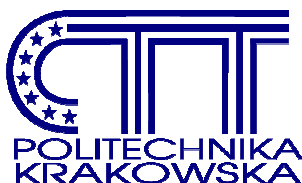
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Wsparcie dla biznesu w zasięgu ręki

„Obróbka skrawaniem”



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**Jeśli posiadasz innowacyjną technologię
i chcesz z nią wejść na rynek europejski**

Jeśli szukasz nowej technologii

**Jeśli szukasz partnera zagranicznego do rozwiązania problemu
technologicznego**

**Skorzystaj z pośrednictwa Centrum Transferu Technologii przy
Politechnice Krakowskiej, członka europejskiej sieci —
Enterprise Europe Network**

Szanowni Państwo,

Oddajemy w Państwa ręce kolejną już publikację zawierającą oferty technologiczne oraz opisy technologii poszukiwanych sieci Enterprise Europe Network pochodzące z zagranicy.

Załączone oferty technologiczne mogą być zarówno ofertą komercyjną dla firm jak również stanowić inspirację dla ośrodków naukowo-badawczych specjalizujących się w tematyce dotyczącej branży obróbka skrawaniem.

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- pomoc w wyszukiwaniu partnerów zagranicznych (m.in. poprzez bazy danych zawierające oferty współpracy technologicznej i biznesowej),
- pomoc we wdrażaniu innowacji i rozwoju badań prowadzonych przez przedsiębiorstwa oraz pozyskiwaniu funduszy na prowadzenie działalności badawczej (w tym uczestnictwo w 7. Programie Ramowym).

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Oferty technologiczne

Systemy wizyjne do pełnego nadzoru łańcucha dostaw ogniw fotowoltaicznych

Vision systems for the total control of the Photovoltaic Supply Chain

(Ref: 10 IT 52T5 3HW3)

Włoskie MŚP, ekspert w dziedzinie integracji systemów wizyjnych, oferuje narzędzia nadzoru wizyjnego w celu osiągnięcia najbardziej wiarygodnych rezultatów nadzoru łańcucha dostaw ogniw fotowoltaicznych.

Technologia ta umożliwia nadzór nad produkcją ogniw PV na każdym etapie, od kontroli grubości płytki, przez produkcję ogniwa, po montaż modułu.

Poszukuje się partnerów akademickich i przemysłowych do współpracy technicznej lub zawarcia umów spółki/komercyjnych.

As the solar industry shifts focus from quantity to quality and processes become more complex, the extensive library of this Italian company vision tools provides advanced machine vision technology to achieve the most reliable results.

Manufacturers must monitor quality from incoming materials and wafers through every step of the PV value chain to achieve high-quality, high-yield solar cell production.

This technology leads the way in precision alignment for automated wafer handling; in ID for part tracking, genealogy, and process control; and in inspection for quality management.

Here a list of the applications of this technology:

- Wafer Inspection: Check wafers for stains, contamination, and mesh pattern and ensure dimensions to avoid processing warped or flipped wafers.
- Silicon Crystal Inspection: Measure the growth of silicon crystals and provide data to help correlate the relationship between crystal appearance and wafer yield.
- Wafer and PV Cell: Identification. Reliably identify all codes for wafer and PV cell traceability throughout the production process.
- Defect Inspection: Detect chipped edges, saw marks, and contour defects on wafers.
- AR Coating Inspection: Inspect the antireflective coating thickness and color uniformity on wafers/cells.

- Cell Orientation Detection: Monitor solar cells to ensure correct upright orientation prior to the dopant application phase.
- Cell Defect Detection: Inspect cells for chips and cracks to ensure any defective cells are rejected prior to processing.
- Screen Print Alignment: Align solar cells for screen printing.
- Laser Edge Isolation: Align cells and inspect the edge groove cuts along the wafer edges to isolate the emitters from the back sides of the cells.
- Color Cell Sorting: Inspect and sort solar cells by slight color variances and grade the cells based on inconsistencies in the color.
- Back Print Registration Inspection: Measure the position, width, and distance between the bus bars and check the continuity of finger lines.
- Robot Guidance: Transmit placement information for robot guidance applications used throughout the solar panel manufacturing process.
- Front Print Registration: Inspect lines for contour breaks, continuity, and excess solder and ensure that traces are parallel and correctly registered.
- Solar Panel Traceability: Track individual modules through production and into the field by reading 2D (DataMatrix) codes marked directly on panels.
- Cell Spacing: Ensure uniform cell spacing in the finished module.
- Connector Inspection: Ensure solder is present and at the correct location for attaching electrical plugs to the solar module.
- Frame Inspection: Ensure screws are present and in the right position on the aluminum frame.
- Panel Assembly Verification: Perform a final quality inspection on the panel assemblies to ensure accurate cell spacing, construction, and part placement.
- Tabbing/Stringing, Alignment and Inspection: Center the PV cells, minimizing the need for mechanical contact, and examine the cells for defects while also verifying the continuity and correct assembly of each string.

Innovations and advantages of the offer:

This vision system for solar PV modules provides users with a toolset for the eight most common solar production quality issues: edge chip inspection, pin hole detection, back print registration and inspection, front bus bar registration, front finger trace inspection, color uniformity inspection and crack detection.

Advanced pattern-finding technology allows to locate features of wafers, cells, and modules under extremely challenging conditions with unmatched accuracy and reliability.

Whether it's color sorting or verifying antireflective coating color uniformity, color tools detect and measure color features. Color search histogram tools are easy to train and provide critical color capabilities that can't be achieved with greyscale vision technology.

The powerful decoding software tool is designed to read the most challenging codes. This readers reliably reads even degraded, reflective, or low-contrast marks, making full wafer-to-panel traceability a reality.

Intellectual Property Rights: secret know-how.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Adaptation to specific needs
- Quality control

Type of partner sought: SMEs, industries.

Specific area of activity of the partner: PV production.

Task to be performed by the partner sought: The company is seeking commercial agreements and technical co-operation with partners looking for quality control of their products.

Linie zintegrowanego sterowania hydraulicznego zamknięte w głównym cylindrze hydraulicznym *Integrated hydraulic control lines enclosed in main hydraulic cylinder*

(Ref: 10 NL 60AH 3HUR)

Niewielkie holenderskie MŚP oferuje opatentowany system dla cylindrycznych linii sterowania hydraulicznego do zintegrowania w głównym cylindrze hydraulicznym. Wynalazek dotyczy konstrukcji cylindrycznej do połączenia części cylindra sterowania hydraulicznego dla umożliwienia ruchu osiowego (różnica długości) bez zmiany objętości ani ciśnienia obwodu. Łącznik przechodzi obecnie testy i jest dostępny do wykorzystania w celach komercyjnych. Holenderskie przedsiębiorstwo jest zainteresowane nawiązaniem stosunków partnerskich z dostawcami działającymi na rynku maszyn budowlanych.

The integrated control system is a unique



and protected construction. The invention concerns a connector to connect two parts of a control line, where the connector permits axial linear movement without variation of the volume or pressure of the conduit. The

connector can for example be used in the hydraulic press used in machinery for producing plastic parts. Multiple control lines can be integrated in the main cylinder. The control circuit is the hydraulic connection between a the activator and the control cylinder operating the hydraulic function in the movable part of the machine. The connector makes it possible to integrate the (multiple) control circuit(s) into the main hydraulic cylinder within the machine. The variation in length is necessary to compensate the change in length of the main cylinder. The invention aims at a hydraulic control line which can be mounted within the inner parts of the main cylinder. Because of the permitting of axial movement without variation of the volume or pressure in the hydraulic fluid, the construction can be completely built in and protruding parts are completely avoided so no hydraulic hoses are necessary.

The systems is tested by a Dutch University of technology and certified by TÜV. Currently experiences are gathered in automotive technology and in a daily use application.

Innovations and advantages of the offer:

The following advantages are met:

- multiple control lines are integrated in the master cylinder, enabling a more rigid construction,
- a more accurate (linear) dosing of hydraulic power is realised,
- a higher pressure in the control circuit can be build up,
- the system does not influence settings and behaviour of the main cylinder,
- different lengths can be achieved when for example changing mold dimensions,
- integration in different brands or manufacturers,
- applicable for first assembly at OEM or after market sales,
- no flexible hydraulic hoses are needed, less wear and failure in operation,
- maintenance is reduced, the system is more reliable,
- no change of entanglement in hydraulic hoses.

Current and Potential Domain of Application:

Current and potential domain of the application is in the machine construction both in mobile and static application market in engineering, suppliers and OEM.

The best application is lies within OEM installation, however after market application is possible as well.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Financial Resources
- Joint further development
- Testing of new applications
- Adaptation to specific needs
- New way to use an existing production line
- Engineering
- Technical consultancy

Type of partner sought: Industry.

Specific area of activity of the partner: OEM active in machine development and construction using hydraulic operated functionality, or service organisation active in hydraulic control systems in mobile or static applications.

Task to be performed by the partner sought: Exchange of knowledge, adaptation to specific needs, licensing of the technology.

Sprzęt do produkcji okien z systemem operacyjnym CNC dla wydajnej produkcji okien drewnianych *Window manufacturing machine with CNC operating system, for efficient production of wood windows*

(Ref: 10 HU 50R7 3HVN)

Węgierskie MŚP opracowało maszynę CNC do podwójnego profilowania końcówek w celu wytwarzania okien drewnianych o profilach przeciwnych. Główną zaletą jest tak samo wydajne wstępne przygotowanie okien drewnianych jak w przypadku okien plastikowych. Technologia polecana jest dla przedsiębiorstw ciesielskich oraz produkujących okna i drzwi drewniane. Przedsiębiorstwo poszukuje partnerów przemysłowych lub w sektorze usługowym do produkcji maszyn i zespołów z systemem CNC.

The Hungarian company is dealing with trade, production, restoration, edging of wood industry tools.

The vertical and horizontal slats of the wood window join in the corner. Originally the corner joints made with mortising or with the advised contra

profiling technology. With contra profiling joints it is only advised to cut the vertical parts of the window or door frame, and only on the horizontal parts is necessary to do the contra profiling. By this the procedures of corner joints is reducing.

In contrast to mortising, contra profiling wedge shape joints match with their opposite. If the mortising is tense, than a huge part of the glue will came off from the surface, if its loose than the glue will act as a gap fill. With contra profiling the glue stays on the surface. The steadiness of the mortising is only 60% of the contra profiling joints.

Most of window manufacturing machines contains a one sided mortising and a multi head planning machine. The advised paired end-profiling machine is more efficient because the machine cuts the frame and makes the end cutting in a single procedure. It became unnecessary to polish the built frame.

The pair end-profiling machine is automatically feeding the long frame and according to the fabrication program it optimize the material and cuts and end-profiles the piece. The machine operates with a circular cutter profile cutting toolkit. The labour of cross section of the frieze material is done at a multi head planning machine, while the fine labour is done with a circular cutter machine.

In accordance with the technology, optionally a profile follow glue apply tool is available too. The glue applied on the end-profile makes unnecessary to glue the contra-profile, by this saving material and time.

To apply the profiled semi-manufactured goods is only necessary just before the final utilization. After the process all necessary additional workmanship is possible.

For the surface treatment of contra-profiling materials a cheaper painting machine will fit too making it cost-effective for smaller workshops.

The pair end-profiling machine works with hand control and automatic CNC operation, the programming can happen both with touch screen and memory card.

Technical parameters:

Thickness: max 88mm

Length: 190-2650+-0,05mm

Width: 30-120mm

Efficiency: 4-8 pcs/minute

Speed: depend on the wood material

Profile changing time: max. 2,5 minutes

Power: 12kW

The circular cutter can be edged 100 times

Innovations and advantages of the offer:

Technological innovations:

According to the traditional manufacturing of window and door frames the first step is the mortising and then the profiling. Opposite to this, the contra-profiling paired end-profiling machine makes the whole profiling.

The circular cutter is very accurate, unusual in the wood industry, and can be edged more than 100 times.

Technological advantages:

- The same productivity as the cheaper but low quality plastic windows,
- The component producing will stop making the production more efficient,
- The separation of profiling makes production efficient,
- In case of customized needs with profiled storing of frames will be flexible,
- Because there is a constant profile on the frame, it is unnecessary to contra-profiling or mortising the material,
- you can save space because this machine is smaller,
- energy saving makes it cost-effective,
- accurate with light weights,
- it saves 6% and 10% material during window and door production,
- contrary to heavy mortising machines it operates with compact profiling, making the whole machine lighter and smaller,
- because the circular profile cutter the base height is constant making the adjustment for producing other products will take less time,
- the circular profile cutter can be edged many times,
- it can be easily set to current production line,
- independent from any window standard,
- simple construction,
- can be adjusted with cost effective painting machine,
- increasing competitive advantage, because of high productivity it is not necessary to operate it every day, or because of high productivity it can be adequate for lease-work.

Further Information (Technical Details Concerning the Profile):

The technology is ideal for carpenter and wood window and door producing enterprises.

Intellectual Property Rights: Patent(s) applied for but not yet granted.

Collaboration Type

- Joint Venture Agreement
- License Agreement
- Financial Resources
- Joint further development
- Transfer of knowledge in new raw materials
- Technical consultancy

Type of partner sought: operates in industry of service sector.

Specific area of activity of the partner: wood industry, machine industry.

Task to be performed by the partner sought:

- distribution of technology, trainings to effective operation,
- take part in the development of technology (development of production line, machines),
- CNC component production,

It is optional if the partner is investing assets in the company.

Dziadek do orzechów o dużej wydajności *Walnut Cracking Machine With High Efficiency*

(Ref: 09 TR 98OB 3EA3)

Tureckie MŚP założone w 1995 r. działające w branży żelaznej i stalowej. Przedsiębiorstwo zdało sobie sprawę z małej funkcjonalności i wydajności maszyn rolniczych. Tak więc zdecydowało o przeprowadzeniu projektów badawczo-rozwojowych dla opracowania dziadków do orzechów. Wynalazło ono innowacyjny dziadek do orzechów, który nie rozbija orzechów na części podczas procesu zgniatania. Procent nieuszkodzonych orzechów wynosi ok. 90%. Poszukuje ono partnerów do umowy produkcyjnej.

The design of the machine has been done regarding the different geometrical circular sizes of nuts, and they are dropped into model with the help of carriers. The nuts which are out of the machine in both shelled and unshelled form are brought into the selecting machine by air pressure or carrier band; in the selecting machine the nuts are spread through a surface by vibration and it enables the nuts to go forward and drop. In this moment, air pressure which has been designed vertical to the dropping angle is applied steadily. After that, it becomes easy to separate shells from the nuts due to the principle of specific gravity. This process is repeated

4 times so that the operation is completed certainly. The shells and inner parts of the nuts are dropped into separate bands and sent to the related storage. The innovative cracking machine can break the nuts which have 20-45 mm calibre. Its capacity is 1mn/ 220 units.

Innovations and advantages of the offer:

In machinery sector, mostly the successful cracking percentage is between % 80-85. By the help of this innovative cracking machine, the percentage of attainment of undamaged inner nuts is about 90%. This high efficiency increases the production rates and the profit.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)

Type of partner sought: Industry.

Specific area of activity of the partner: Agrofood and Machinery.

Task to be performed by the partner sought: Further Development and Marketing.

Hydrauliczna obręcz i tarcze hamulcowe do rowerów *Hydraulic rim and disc brakes for bicycles*

(Ref: 10 HU 50R9 3H96)

Węgierskie przedsiębiorstwo opracowało nową hydrauliczną obręcz i tarcze hamulcowe do rowerów. Główny cel to bezpieczniejszy i doskonalszy system hamulcowy do rowerów. Obręcz i tarcze hamulcowe węgierskiego przedsiębiorstwa są w pełni hydrauliczne – od przekładni do rozpiercza hamulca bez żadnego sprzętu mechanicznego. Przedsiębiorstwo oferuje prawo do produkcji tego rodzaju hamulców. Przedsiębiorstwo poszukuje partnerów do umów produkcyjnych.

The Hungarian company offers the right to produce hydraulic rim and disk brakes for bicycles. The technology is beyond the requirements of known standards.

The brake delay value for the disc brake in wet braking conditions is much higher than that of the rim brake. Therefore, with essentially less hand pressure and considerably higher delicacy, an optimal brake reaction can be achieved, amounting therefore to higher safety in brake manouvers on wet roads. It is practical, serviceable, and a considerable frictional-free system which is closed and sealed from without. Loss of brake fluid does not occur.

Good brakes are surely the most important criterium when purchasing a bicycle. Utmost safety is first priority since speeds have risen and the damage factors drastically increased. For these reasons, this hydraulic brake system has undergone many years of development and is now practical for wheel-changing.

The easy assembly and optimal adjustment of the rim brake in connection with the patented quick unlocking device for brake-shoe or tyre-change gives the bicycle not only a modern appearance but also an up-to date brake with matching safety.

The company is looking for manufacturers whom could be interested in this new and patented technology, who would like to produce brakes on the basis of this technology.

Innovations and advantages of the offer:

Hydraulic rim and disc brakes for bicycles:

- practical, serviceable, and a considerable frictional-free system,
- loss of brake fluid does not occur,
- it is far beyond the requirements of well-known standards,
- the hydraulic brake system has undergone many years of development ,
- easy assembly and optimal adjustment of the rim brake,
- patented quick unlocking device for brake-shoe or tyre-change,
- modern appearance,
- up-to date brake with matching safety,
- higher brake performance,
- constant efficiency,
- no change of frictional drag is possible,
- known disadvantages of cable brake systems and maintenance are eliminated,
- maintenance free - closed system,
- very good regulation,
- improved safety due to shorter stopping distance,
- different fixing possibilities for touring bikes and mountain bikes.

Further Information (Technical Details Concerning the Profile):

Weight fully assembled: 295 gr.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process

Type of partner sought: Industrial partners, manufacturers.

Specific area of activity of the partner: Manufacturer of brakes for bicycles.

Task to be performed by the partner sought: Be ready to manufacture on the basis of this technology.

Komponenty pieca łukowego o dużej przewodności elektrycznej

Electric Arc Furnace Components with High Electrical Conductivity

(Ref: 10 TR 99PD 3HE8)

Tureckie MŚP doświadczone w produkcji komponentów do pieców łukowych opracowało proces metalurgiczny umożliwiając produkcję komponentów do pieców łukowych o dużej przewodności elektrycznej. Komponenty produkowane w tej technologii wykorzystują mniej energii i charakteryzują się dłuższą żywotnością w porównaniu do części konwencjonalnych. Przedsiębiorstwo pragnie zawrzeć umowy handlowe obejmujące pomoc techniczną z użytkownikami końcowymi i producentami pieców łukowych.

Electric Arc Furnace (EAF) is an alternative to blast furnace in steel making industry. Contrary to the blast furnace, the use of EAFs allows steel to be made from a 100% scrap metal feedstock. The primary benefit of this is the large reduction in specific energy (energy per unit weight) required to produce the steel. Another benefit is flexibility: while blast furnaces cannot vary their production by much and are never stopped although the Electric

Arc Furnace can be rapidly started and stopped, allowing the steel mill to vary production according to demand.

To produce a ton of steel in an electric arc furnace requires approximately 400 kilowatt-hours. This consumption of electricity is highly dependent on the electrical conductivity values (IACS) of the components of the Electric Arc Furnace (EAF). A Turkish SME that is active in producing EAF components has managed to develop a new metallurgical system which lets them to produce EAF components with IACS values as high as 85. Due to its high conductivity, the Electric Arc Furnaces that are built with these components both consume less energy and have greater lifecycles when compared with traditional EAF components.

The company would like to do commercial agreements with technical assistance with the manufacturers and end users of electric arc furnaces.

Innovations and advantages of the offer:

Energy consumption for steel making is greatly reduced due to the high electrical conductivity of the electric arc furnace (EAF) components. Since the high conductivity also means for low resistance, the electric current wears the components in a much slower rate than the conventional parts. As a result of this, the EAF composed of these components has a greater lifecycle.

Current and Potential Domain of Application:

Steel manufacturing industry.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: Companies.

Specific area of activity of the partner: Steel manufacturing industry.

Task to be performed by the partner sought: Incorporating the new components in to existing Electric Arc Furnaces or to develop alternative and innovative ones with new components.

Zaawansowana mikroobróbka laserowa dla wspólnego rozwoju technologii medycznych i kosmicznych *High tech laser micro machining for co-development in medical- and aerospace technology*

(Ref: 10 NL 60AH 3GYE)

Niewielkie przedsiębiorstwo holenderskie specjalizuje się głównie w mikroobróbce plastików, ceramiki, szkła i metali cienkich. Bardzo precyzyjny proces obróbki laserowej umożliwia wykończenie produktów bez zadziorów, charakteryzujących się bardzo małymi elementami. Oprócz projektowania i produkcji (we współpracy z innym podmiotem), do specjalności przedsiębiorstwa należy ślusarstwo. Przedsiębiorstwo to poszukuje partnerów przemysłowych do wspólnego opracowania nowych zaawansowanych aplikacji medycznych i kosmicznych.

The ISO9001:2008-certified company whose core-competence is the laser micro machining of plastics, ceramics, glass and thin metals. By utilizing the latest and most advanced laser micro machining (ultra short pulse and harmonic generation), the company offers laser application development and contracting services. The main orientation is in the field of industrial, medical and aerospace applications. Related products are medical devices, dental implants, drug delivery systems, microfluidic devices, microvias and other products characterized by extremely small features. The high precision "cold" ablation-based laser shaping processes that the company employs include burr-free cutting, milling, patterning, structuring and scribing. Aside from laser subcontracting, the company also offers related product development and assembly services. For a cost effective approach for high volume production, the company strives for a highly optimized / dedicated tool setup.

Innovations and advantages of the offer:

The company always uses the latest and most advanced laser micro machining (ultra short pulse and harmonic generation). The company's skills allow high precision burr-free finishing of products characterized by extremely small features. Combination of the company's skills with additional skills from an interested industrial partner will lead to new medical and aerospace applications.

Current and Potential Domain of Application:

High End Medical and Aerospace Technology.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: industry.

Specific area of activity of the partner: medical- and aerospace technology.

Task to be performed by the partner sought: Co-development of new applications and production processes, including micro-machining/laser technology.

Innowacyjne oprogramowanie do symulacji eliminujące awarie narzędzi

Innovative Simulation Software Eliminates Tool Breakages

(Ref: 10 TR 99PD 3GVU)

Tureckie przedsiębiorstwo typu spin-off opracowało innowacyjne oprogramowanie symulujące wirtualnie operacje przeciągania. Przy pomocy tego oprogramowania użytkownicy mogą przewidzieć problemy zanim operacja ma miejsce. Dzięki tym symulacjom można zmniejszyć długość narzędzia oraz czasy cykli roboczych; a łamliwość narzędzi eliminuje się na etapie projektowania narzędzia. Spółka szuka partnerów zainteresowanych licencją lub umową handlową wraz z wsparciem technicznym.

Currently in broaching operations, there is no tool that informs the user about the process problems as well as the broach tool geometrical problems before the operation takes place. Due to this lack of knowledge, problems are encountered during the operation which generally yields to tool breakages, undesired surface qualities and dimensional tolerances.

A Turkish spin off company has tackled this problem and developed an innovative software that simulates the broaching operations virtually. This invented software is developed for simulation of broaching processes. It has two modules: analyzer and designer.

Users can simulate broaching process by analyzer module and obtain:

- Cutting forces,
- Cutting power,
- Stresses on each tooth,
- Chip thickness distribution,
- Rake angle distribution,
- Animated machined work piece geometry by each tooth.

This analyzer uses state of the art metal cutting mechanics formulations. The cutting mechanics are represented by a three dimensional approach in order to calculate cutting forces, power, stresses etc.

Designer module is developed for optimization of broaching process and/or the broach tool itself.

Using designer module, users can obtain the optimum broach tool by:

- User friendly design environment,
- Easy to use comparison tools,
- User oriented hierarchical design tree,
- State of the art backbone for faster processing.

This module also uses a hierarchical user guided optimization approach in order to calculate the best broaching tool parameters. Users can run different cutting scenarios and make large scale comparisons among the selected ones.

The implemented analytical cutting mechanics and 3D geometrical calculations yield very fast processing times which are generally in the order of seconds.

The company is looking for license or commercial agreements with technical assistance.

Innovations and advantages of the offer:

Users can simulate broaching processes in order to optimize broaching tools and foresees problems before the operation takes place. Being the only broach simulation software in the industry, it has also a designer

module which helps users to redesign their broaches with a guided optimization procedure.

This invented software:

- Reduces tool length and cycle times,
- Eliminates tool breakages,
- Predicts quality problems at the design stage,
- Optimize the broach tool and the operation.

Current and Potential Domain of Application:

Machinery and Manufacturing Sectors, Aerospace Industry.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- License Agreement
- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: companies.

Specific area of activity of the partner: the partners could be in machinery, manufacturing, aerospace industries.

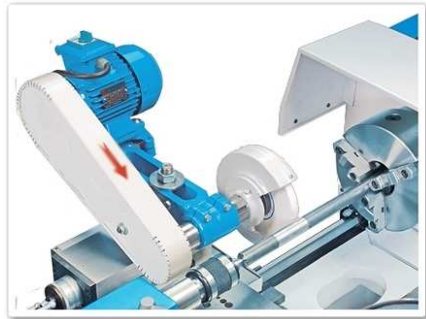
Task to be performed by the partner sought: this innovative IT software is sought to be used in specialised turnkey systems.

Przenośna maszyna do obróbki ***Portable Grinding Machine***

(Ref: 10 TR 97NA 3HAH)

Tureckie przedsiębiorstwo opracowało przenośną maszynę do obróbki, którą można przewozić i dopasować do każdej tokarki. Maszyna ta jest oszczędna, przy czym jest to jedno z najporęczniejszych narzędzi z łatwym mocowaniem i o bardzo dobrych osiągnięciach. Przedsiębiorstwo pragnie zawrzeć umowy handlowe wraz z wsparciem technicznym z firmami z krajów należących do sieci, które potrzebują takich krytycznych aplikacji do obróbki, którą można wykonać wyłącznie przy pomocy innowacyjnych narzędzi przenośnych.

The Turkish company composes their experiences and technical efficiency in machine production and industrial isolation. They have succeeded in a short time by strictly following the technology and quality standards. The company achieved the project restrictions with its engineers and technical staff thanks to their continuous research and development project experiences.



The Portable Grinding Machine is one their most cost-effective and handiest tools with its easy-to-mount feature and top performance.

Some technical specifications are as follows:

- 15 and 25 % grinding capability,
- 150mm. (up to 600 mm. with add-on pin) inner plumb grinding,
- Surface grinding with the bowl grinder,
- Auxiliary hole grinding pin and hole pulley,
- Hole grinder pin and hole pulley.

Innovations and advantages of the offer:

Some of the advantageous sides of the machine are as follows:

- 1- Strong Construction.
- 2- Perfect harmony with the lathe machine.

- 3- Surface Grinding Capability.
- 4- Rubber and steel grinding capability.

Further Information (Technical Details Concerning the Profile):

Grinding Machine is one their most cost-effective and handiest tools with its easy-to-mount feature and top performance.

Intellectual Property Rights:
Patent(s) granted.

Collaboration Type:

- Assembly
- Engineering
- Technical consultancy
- Quality control



Type of partner sought: industry, academy, research organisations, universities.

Specific area of activity of the partner: manufacturers of metallic parts, plastic parts etc.

Task to be performed: the company is looking for partners who are in need of such critical grinding applications that cannot be performed with traditional units but can only be performed with innovative portable grinding units.

Latająca piła – maszyna do cięcia rur stalowych do stałych linii produkcyjnych

Flying Saw - Metal Steel Pipe Cutting Machine for continuous production lines

(Ref: 10 TR 99PB 3H8U)

Tureckie przedsiębiorstwo od 20 lat specjalizujące się w aplikacjach automatyki przemysłowej i sterowaniu ruchem oferuje latającą piłę do cięcia na zimno dla przemysłu produkującego prostokątne rury metalowe, zdolną do cięcia rur z wykorzystaniem technologii cięcia (o czystej powierzchni). Spółka szuka partnerów zainteresowanych umową handlową wraz z wsparciem technicznym.

A Turkish SME offers Cold Cut Flying Saw machine which is used for cut to length process of metal pipes. The design of the system, which cut pipes with +/- 1mm accuracy at 130m/min line speed, offers burr-free technology. The system includes an industrial computer, which allows tracking and remote controlling of the production.

The machine is used in metal pipe industry for cut to length of aluminium and metal pipes applications. The design without gearbox eliminates the need for maintenance caused by gearbox and it supplies a longer service time.

Innovations and advantages of the offer:

The car is driven by Servo - Torque motors, which eliminate gearbox and increase efficiency by saving energy.

Special design for cold cutting allows cutting pipes +/-1mm accuracy at 130m/min without any scrap.

Current and Potential Domain of Application:

Steel, aluminium rectangular pipe production factories.

Collaboration Type:

- Assembly
- Engineering
- Technical consultancy

- Quality control
- Maintenance

Type of partner sought: Industrial.

Specific area of activity of the partner: Manufacturer of Steel, aluminium rectangular pipes.

Task to be performed by the partner sought: Commercial Agreement with Technical Assistance: The sought partner will implement the offered technology to its manufacturing lines while the technology owner offers its expertise and know-how by providing technical consultancy in installation, engineering and maintenance.

Urządzenie do automatycznego wiercenia i wbijania kołków w płyty betonowe

Device for robotized drilling and pegging in concrete slabs

(Ref: 10 FR 3116 3H76)

Francuskie MŚP stworzyło robota dokonującego wierceń i wbijającego kołki w beton. Urządzenie działa szybko i eliminuje trud pracy. To opatentowane urządzenie przeszło pozytywne próby w pracy z prototypami przy wykonywaniu małych i dużych prac. Przedsiębiorstwo chce przekazać swój know-how partnerom technicznym i finansowym w celu rozwinięcia systemu. Jest też przygotowane do udzielania licencji.

The apparatus can drill concrete slabs with a robot for mechanical fixing. It can be applied to any type of light work: thermal insulation, heating, electricity,...For instance one can fix a thermal insulation material under floors. The drilling and pegging are completed without any manual operation. In order to apply a 1,2 M2 insulation panel for roofs, the six holes are operated simultaneously and the six pegs are drilled by the robot. More than 100.000 M2 have been completed



by prototypes since 2006. This system doesn't compare with manual drilling, as the daily speed is multiplied by five. Moreover, the number of apparatuses increases the speed of production.

Innovations and advantages of the offer:

- Eliminates the painful effort of manual drilling.
- Increases security of the worker.
- Can be performed at any height without scaffolds.
- One apparatus replaces several work stations.
- Allows better planning and anticipation of operations, for a better compliance with deadlines.



Current and Potential Domain of Application:

Construction technology.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- License Agreement
- Transfer of knowledge in new raw materials
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly
- Engineering
- Technical consultancy

Type of partner sought: small or large sized company.

Specific area of activity of the partner: construction, building.

Task to be performed: development of the device and / or adaptation to specific needs.

Innowacyjne systemy na ciele stałym to laserowego cięcia i spawania

Innovative solid state laser systems for cutting and welding

(Ref: 10 IT 56Z7 3GVW)

Włoskie przedsiębiorstwo opracowało innowacyjny system z zintegrowanym laserem odpowiedni do cięcia i spawania metali i stopów. Przyjęcie źródła lasera na ciele stałym oraz optyki światłowodowej do prowadzenia wiązki prowadzi do znacznej przewagi nad tradycyjnymi systemami opartymi o lasery CO₂. Przedsiębiorstwo poszukuje partnerów zdolnych do wykorzystania potencjału tego nowego podejścia i zdolnych do znalezienia nowych pól dla jego zastosowań.

The cutting / welding apparatus is built around a high brilliance solid state laser source, in which the laser effect develops directly inside the Ytterbium doped optical fiber transporting the power light beam to the final target.

In the last few years Ytterbium fiber lasers went through striking advancements that raised their optical power to the kilowatts range, keeping also very favourable efficiencies, reliability and dimensions.



In the last few years Ytterbium fiber lasers went through striking advancements that raised their optical power to the kilowatts range, keeping also very favourable efficiencies, reliability and dimensions.

The overall design of a cutting system based on fiber laser is thus quite different from the ones that use CO₂ lasers, since the former lacks many of the hindrances, such as mirrors, precise (but also bulky) opto-mechanical assemblies, heat relief system, pumps, etc. These drawbacks are unavoidable in the old free-in-the-air light beam approach.

The company produces "turn key" cutting / welding benches that use state-of-the-art fiber laser and incorporate a number of improvements and advantages over the competitors.

Innovations and advantages of the offer:

Innovations

- best use of the emerging optical fiber power laser technology,
- system highly engineered in its key components, ready to be used without many of the specialised skills and precautions needed by the previous CO₂ systems

Advantages

- Cutting power comparable to traditional CO₂ lasers,
- Bench sizes from 1.5 x 3.0 m up to 2.5 x 6.0 m,
- Reduced number and complexity of components in comparison to the traditional technology: no need for high purity gases, turbines and pumps, mirrors, heavy opto-mechanical assemblies, etc.
- High electrical efficiency in terms of delivered power vs. consumption,
- Disposal of excess heat - generated during operation - is simple and uses a compact chiller unit,
- Very low maintenance, with no need for frequent cleaning and precise alignment of optical components,
- Short turn on time of the overall system, suitable for stop-n-go operation,
- High yield thanks to a lightweight arm for the positioning of the laser beam, with high speed,
- X Y and Z operation of the cutting head,
- Ability to cut materials (e.g. copper and brass) usually unsuitable for CO₂ lasers,
- Reduced overall dimensions of the system (about half of a traditional one) allows a better use of workshop spaces,
- Less prone to the effects of environmental variables such as vibrations, humidity, air purity, etc.
- Integrated exhaust gas collection system,
- Reduced maintenance and very low maintenance costs,
- transport and initial setup of the system in limited time,
- Stand alone control PC system can be used for self paced cutting processes or it can be fed by CAD/CAM outputs.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- License Agreement
- Adaptation to specific needs
- Engineering

Type of partner sought: SMEs, companies and workshops operating in the field of metal construction, steel and metal cutting, steel and alloys welding.

Specific area of activity of the partner: manufacturer metal sheets machineries.

Task to be performed by the partner sought: test and exploitation of the new potentials offered by solid state laser cutting technology.

Linia produkcyjna wysokiej jakości izolacji z wełny mineralnej

High-Quality Mineral Wool Insulation Production line

(Ref: 10 CZ 0754 3GMK)

Średniej wielkości przedsiębiorstwo czeskie skupia się głównie na produkcji kompletnych linii do produkcji paneli izolacyjnych z wełny mineralnej. Wełna mineralna jest najbardziej odpowiednim rodzajem materiału, szeroko stosowanym w branży budowlanej, gdzie jest ceniona za własności izolacji cieplnej, ale też za odporność ogniową i tłumienie hałasu. Przedsiębiorstwo to poszukuje partnerów zainteresowanych kupnem i wykorzystaniem tych linii.

Basic Description of the Line

Using coke coal as fuel, the basic raw materials are melted in a cupola furnace. Once the desired temperature is reached, the created lava is conducted into a cooled trough onto 4 separation coils (a centrifuge). This is where spinning force and a stream of air create the fibres which are then coated with a binding agent.

Applied under pressure, the fibres are attached onto a part of a revolving drum circumference. Taken on belt conveyors from this drum, fibres are lead between two parallel vertical conveyors which, by means of a pendulum-like movement, lay the created matt of fibres onto an adjustable conveyor. Its speed allows for a needed coat of mineral wool to be fed continually. The whole procedure is checked by weighing on a continuous scale. Then, in order to achieve better consistency and by applying varied speed and pressure, the material is compressed. In the thermo-bonding chamber the carpet of mineral wool is exposed to heat. The resin covering the fibres hardens and the final product achieves the required parameters of density.

When passing through the cutting section the carpet width is adjusted, then the carpet is split longitudinally into strips and transversally in order to obtain plates of desired dimensions. The plates are piled in stacks of a specified height. The stack is wrapped in PE shrinking foil cover along its perimeter.

Innovations and advantages of the offer:

There are more advantages of the line, eg simpler construction of the line, its higher performance. Production process is more environmentally friendly. The waste is recycled into the form of briquettes.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: manufacturing industry, buyer.

Specific area of activity of the partner: producer of machinery equipment.

Task to be performed by the partner sought: use of the line, commercial cooperation agreements

Nowa rewolucyjna technologia odlewnicza dla materiałów o temperaturze topnienia do 1800°C

New revolutionary casting technology for materials with a melting point up to 1800°C

(Ref: 10 DK 20B3 3GUB)

Innowacyjne duńskie przedsiębiorstwo o szerokiej wiedzy na temat form odlewniczych i formowania wtryskowego opracowała nową technologię umożliwiającą produkcję bardzo szybkich prototypów lub krótkich serii z materiałów o temperaturze topnienia poniżej 1800 stopni. Technologia ta opiera się na procesie dowolnego modelowania, zapewniając konstruktorowi lub projektantowi prawie nieograniczoną swobodę projektowania.

Przedsiębiorstwo oferuje umowy handlowe, w tym pomoc techniczną i obsługę produkcyjną.

The Danish company has worked with casting technologies since 1985 and is among the very best within their area. The company possesses an extensive

know-how within die casting, which is the background for development of this new technology that allows production of detailed products which so far has been impossible.

The new casting process makes it is possible to produce prototypes and small batch productions within 1-2 weeks in aluminium, magnesium, zinc, bronze, stainless steel as well as a large variety of other metals. The process is based on free form modelling techniques and therefore the process offers almost unlimited design freedom. As an example parts with complex undercuts can be produced and furthermore draft angels, radii and parting lines are not required in the process.

The process does not involve any tooling costs and therefore the process is very suitable for prototype and small batch productions.

Innovations and advantages of the offer:

Design freedom and possibility of precision casting of also stainless steel and soon tool steel.

The company is represented in Germany through a consultant.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process
- Engineering
- Technical consultancy

Type of partner sought: Industry.

Specific area of activity of the partner: Product development, prototyping within all sectors.

Task to be performed by the partner sought: Providing a product or product idea for further development and/or production.

Innowacyjna technologia automatycznej prasy balansowej i lasera kąтового

Innovative Robotic Press Brake & Bevel Laser Technology

(Ref: 10 GB 4200 3GS5)

Brytyjski producent wielonarodowy z siedzibą w Yorkshire, specjalizujący się w branży metalurgicznej, opracował innowacyjne połączenie systemu automatycznej prasy balansowej CNC oraz lasera kąтового, zdolne do ściskania do 7,3 m części o długości do 20m, szerokości 3,2m i grubości 25mm. Poszukuje się partnerów do wspólnego rozwoju produktów.

ROBOTIC PRESS BRAKE

The press brake has a 640 kg Robot attachment enabling the press cell to be fully automatic with self loading and palletisation.

The angle sensor enables the press to monitor and maintain the angles to within 0.5 degrees whatever the plate thickness variation is, including quenched and tempered high strength steel.

The robot cell has two loading beds to ensure continuous pressing and it has off line programming to ensure continuous production. The Robot can pick parts up and place them within the press with a tolerance of +/- 0.5 so that the backstops are not required if necessary, the back stops have sensors which signals the robot that it is in the correct position when they are in use.



The combination of the angle sensor and the accuracy of the robot enables to run the cell fully automatic with the confidence of conforming parts being produced.

BEVEL LASER

The Bevel laser is capable of cutting both chamfers and weld preps of up to +/-50 degrees. Including the Bevel, the eight laser cutting systems have a capacity in excess of 1 100 hours per week. The company's wide range of industry leading laser machines means that the company is capable of handling all sizes and types of job, from carbon steels to aluminium, working 24 hours a day, seven days a week. Innovations and advantages of the offer

The combination of the Robotic Press Brake and Messer Bevel Laser is an innovation and unparalleled. With enhanced tolerances, increased speed of production and largest bed of its kind, it has the upperhand in cost savings, processing, production time and technology.



ROBOTIC PRESS BRAKE

The process can be used for mass repetitive production and offers reduced production costs as it is the company requested a bespoke Robotic Press Brake to meet the demand in the market.

The Robotic Press Brake has enhanced tolerances as opposed to a standard CNC Press Brake which relies heavily on manual configuration, this allows reduced manual labour by being fully automatic with self loading and palletisation.

BEVEL LASER

Improved efficiency and productivity - with low costs and lead times. The machine can cut parts up to 20m long x 3.2m wide x 25mm thick. There is no other manufacturer in the UK who can offer this service which has allowed the company to meet more specific bespoke demands by their customers.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly
- Engineering
- Quality control

Type of partner sought: OEM's.

Preferred area of activity of the partner: Renewable Energy, Offshore, Oil and Gas, Defence.

Task to be performed: Joint design and development work.

System automatycznej optymalizacji ciągłej do planowania procesu cięcia w produkcji rolek papierowych *On-line automatic optimisation system for planning the cutting process during the production of paper rolls*

(Ref: 10 ES 25E2 3GWA)

Przedsiębiorstwo z Katalonii (Hiszpania) z sektora technologii papierniczych i kartonowych opracowało kluczowe narzędzie do redukcji kosztów w procesie produkcji rolek papierowych. System umożliwia użytkownikowi stworzenie w ciągu sekund najlepszego harmonogramu procesu produkcyjnego rolki papierowej, spełniając tym samym wymogi klienta dotyczące czasu i jakości przy minimalnych kosztach. Spółka szuka partnerów zainteresowanych zawarciem spółki i/lub umową handlową wraz z wsparciem technicznym.

A Catalan company which activity is focused on the paper and paperboard technology sectors introduces here its second IT-tool for that kind of industry. This time, the company has developed a ready-to-use system that optimises the cutting process during the production of paper rolls. The tool provides a quick and easy assessment of an optimised roll cutting strategy

to achieve both productivity improvement and an extraordinary reduction of operational and material costs.

The software contributes to improving the scheduling in several ways: reduction of material costs, reduction of estimated times, and increase of process flexibility.

Due to the on-line access, the user will profit from a flexible service through a user friendly interface. When accessing the system, the same front-end will be displayed. The user needs to feed the application with input data regarding the cutting process and the technical settings of the machinery being used. This process is performed only during the first query run and it just takes few minutes. This input data is then stored in a secured database to make it available for later use.

During daily activity, the production planning staff must enter orders grouped by inner width, quality, thickness, or outer width and roll diameter. The system renders the optimal schedule in a matter of seconds. The planner can redefine other critical parameters (tolerances for delivered quantities, trim suction, etc.) to generate new cutting plans bearing in mind the actual situation of the plant activity. In addition, the user can simulate scenarios that could be used for troubleshooting purposes.

Innovations and advantages of the offer:

This is an on-line assisting system charged on a pay-per-use basis, allowing the user to access it exclusively if difficulties or complex planning processes emerge.

The service is easily and transparently charged through its pay-per-use model. Consequently, there is no need of investment neither in software nor in any specific IT equipment.

The system will keep manufacturing costs at an optimum level while choosing the best trim combination.

Flexibility and ability to respond to contingencies and last minute urgencies. The optimum cutting plan is generated in minutes.

Current and Potential Domain of Application:

Its main application is the assistance during planning the cut of paper rolls. It has been specifically designed for planning tasks of paper manufacture using corrugated mills that cut reel to reel on winders and re-winders, double cut winder-sheeter or both simultaneously.

The application could also be additionally applied to the plastic industry and might be adapted to other material sectors.

Intellectual Property Rights: Exclusive rights

Collaboration Type:

- Joint Venture Agreement
- Technical consultancy
- Maintenance

Type of partner sought: industry, consultancy, machinery manufacturers and distributors, technology centres.

Specific area of activity of the partner: software development and distribution, paper and cupboard industry.

Task to be performed by the partner sought: assessment in software development, update of the system, addition of the tool to the list of provided services and offered products.

Opracowanie procesu produkcji części plastikowych ze zgrzewaniem

Developer of process of production of plastic parts all welded

(Ref: 10 FR 33j6 3GQF)

Francuskie MŚP oferuje swoje doświadczenie w opracowywaniu koncepcji i produkcji narzędzi precyzyjnych do produkcji części plastikowych formowanych wtryskowo, a następnie zgrzewanych. Stosuje ono tę technologię na obszarach takich jak urządzenia AGD i motoryzacja, wymagających długich serii i dużej wydajności pracy urządzeń. MŚP szuka firm o takim zapotrzebowaniu w kontekście nawiązania trwałego partnerstwa, jak umowy o współpracy technicznej lub umowy handlowe wraz z wsparciem technicznym.

With a high experience in research and development of precision tooling for the plastic industry, the SME has the ability to innovate and customize engineering solutions to answer to specific needs. It is dedicated to provide the highest standards of quality, reliability and reactivity. The SME owns a injection moulding press and two welding machines for on site testing.

The overall know-how proposed is the following:

- Co-development of injected parts constituting the welded assembly,
- Design of the different tools for injection, welding, arms handling and control means,
- Production, development, adjustment and testing of those specific tools,
- Assistance for implementation on site.

Developments are made with the help of on-site machines including:

- 3D CNC milling machines, CNC machines and wire cutting EDM erosion,
- CNC tower and parallel grinding,
- Injection moulded press,
- Welding machines...

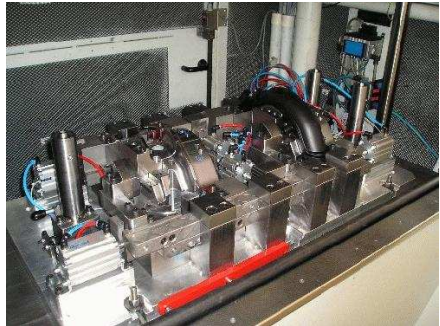
The overall technical experience includes:

- Design,
- Project management,
- Precision machining,
- Unit and subsystem assembling,

Innovations and advantages of the offer:

This SME offers a comprehensive enabling the customer to have a reliable manufacturing process and a finished product (injected and welded) with a single partner. It has a proven experience and know-how in these fields of development.

Moreover, this SME can receive the specific machines of its customers for the trials, such as tightness control machines for example.



Current and Potential Domain of Application:

Sectors that are making rounds in large quantities and need high yields:

- Automotive,
- Household Appliances,
- Medical

Intellectual Property Rights: Secret know-how,

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Engineering

Type of partner sought: industry.

Specific area of activity of the partner: automotive, household appliances, medical...

Task to be performed by the partner sought: cooperation in new product development, exploiting this know-how.

Stacja do przeprowadzania szybkich prób wycieku wodoru

Quick test station for checking the leakage of hydrogen

(Ref: 09 CZ 0754 3F40)

Niewielkie przedsiębiorstwo z Czech opracowało stację do przeprowadzania szybkich prób wycieku wodoru. Przedmiotowa stacja testowa wyróżnia się dokładnością, niezawodnością i krótkim okresem trwania testu. Przedsiębiorstwo to poszukuje partnerów zainteresowanych nowym sposobem wykorzystania systemu oraz zmianą obecnie stosowanej technologii u partnera.

The company supplies the equipment for monitoring leakage component with hydrogen. By measuring the increase in the concentration of hydrogen ions in the vicinity of a controlled work very quickly and accurately detects leaks. Tester is manufactured under a controlled product. It is checking both to escape into the surrounding wall, and leakage between the chambers work.

Innovations and advantages of the offer:

The quick test station for checking the leakage is accurate and reliable. Innovations is accuracy, high reliability of the test station and very short period of testing.

Current and Potential Domain of Application:

Industrial manufacturing.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly
- Engineering
- Technical consultancy

Type of partner sought: manufacturing industry.

Specific area of activity of the partner: producer of machinery equipment.

Task to be performed by the partner sought: use of the system, commercial cooperation agreements.

Podajniki części

The Leaf Parts Feeders

(Ref: 09 CZ 0754 3F3X)

Niewielkie przedsiębiorstwo czeskie opracowało podajnik części stosowany do dostarczania różnych części. Podajnik ten wyróżnia się niskim poziomem hałasu oraz wysoką niezawodnością. Przedsiębiorstwo poszukuje partnerów zainteresowanych nowym sposobem wykorzystania systemu oraz zmianą obecnie stosowanej technologii.

The feeders are designed for moving of different parts.They are characterized by a low noise level and high reliability. The company

provides the ensemble with a linear storage reservoir (gravity, band) equipped with a sensor fill the reservoir, the sensor directly manages the feeder. In addition, the company supplies parts for the separator of the base manipulator.

Innovations and advantages of the offer:

Advantages of the feeder are high speed, accurate positions of the parts, low noise level and high reliability. System does not introduce any vibration in equipment.

Current and Potential Domain of Application:

Industrial manufacturig.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly
- Engineering
- Technical consultancy

Type of partner sought: manufacturing industry.

Specific area of activity of the partner: producer of machinery equipment.

Task to be performed by the partner sought: use of the system, business cooperation.

Specjalne narzędzia oraz metodyka konserwacji „na miejscu” dużych lub ciężkich części w elektrowniach lub innych branżach

Special “On Site” maintenance tools and methods for large or heavy parts in power plants and in other industry

(Ref: 10 FI 30I3 3GUN)

Fińskie przedsiębiorstwo opracowało specjalne metody i maszyny do wykonywania zadań konserwacyjnych „na miejscu”. Maszyny te oraz know-how są wyjątkowe, co umożliwia ogromne oszczędności oraz lepszą jakość prac konserwacyjnych w elektrowniach i innych miejscach, gdzie wymagana jest obróbka dużych przedmiotów. Spółka szuka partnerów z branży konserwacyjnej i metalurgicznej do współpracy na miejscu wraz z wsparciem technicznym. Możliwość opracowania maszyn zgodnie z potrzebami partnera.

The Company has developed unique series of “On Site” machines and methods. Most of them are the only existing unique ones. These machines are specially designed to be used on site to accomplish special tasks in the field of reaming, turning, drilling and coating etc. Normally when using traditional methods big bodies have to be transported to other places to be treated properly.

Operation accuracy of +/- 0,005 – 0,05mm can be achieved depending on method and type of project. Diameter scale is between 400 – 4.000 mm.

This means production equipment maintenance executed at the partner's location utilizing special machines developed by the company. The range of the know-how covers both planning and execution of machines for maintenance work.

For instance turbine technology is improving all the time. Calculation methods to design turbine blades, sealing technologies and other new technologies enable better efficiency. Applying this new technology to existing turbines demands wide range of know-how in the field of theoretical physics (designing and calculations) and in practical technical applications. Implementing this means often sending turbine to the factory to be treated taking long time and loss in production of electricity. The company offers turnkey solutions utilizing on site methods.

Wide range of unique own designed on-site machining and on-site coating equipment is available. Also new solutions for different purposes can be

developed from company's 15 basic machines. Modifying these basic solutions, unlimited amount of applications can be produced for different needs. These technologies and machines are applied also in the maintenance work of the nuclear power plants.

These methods have been tested in practice and the company has good references from Finland, Russia, Indonesia, China and from other parts of the world.

Innovations and advantages of the offer:

By utilizing on-site methods, many machining and coating work can be carried out without need to transport heavy objects. Utilizing this "On-Site" technology in repair and maintenance work leads to more effective and higher quality of work.

With this technology the need of transportation of heavy equipment is reduced. This helps to control the risks of the delays and damages in the maintenance work. Transportation expenses and maintenance time is reduced. In addition, it minimizes work time reserved to installation.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Adaptation to specific needs
- Engineering
- Technical consultancy
- Maintenance

Type of partner sought: Company is looking partners who are conducting maintenance work in power plants and stations interested in utilizing new efficient "On Site"- technology methods and machines. Power stations can also be partners themselves. Technologies are most suitable for objects that are difficult to transport or to dismantle.

Specific area of activity of the partner: Maintenance of the power plants etc. Company is also looking partners for practical on site operations.

Task to be performed by the partner sought: Commercial agreement with technical assistance related to the maintenance of the plants.

Ultradźwiękowy system cięcia *Ultrasonic cutting system*

(Ref: 10 SK 69CV 3GE1)

Niewielkie słowackie przedsiębiorstwo przemysłowe opracowało ultradźwiękowy system cięcia umożliwiający skuteczniejsze cięcie materiałów bez abrazji. System ten może być stosowany w branży motoryzacyjnej, tekstylnej, do obróbki śmieci, do produkcji opon przy cięciu gumy, przez plotery do wycinania, czy w branży produkcji żywności do wycinania ciastek, paluszków itp. Przedsiębiorstwo poszukuje producentów technologii w wymienionych sektorach przemysłowych, a także użytkowników technologii ultradźwiękowej.

Ultrasonic cutting technology developed by the company gives the opportunity to cut different substances very exactly using ultrasound that works more effective with loss-loss method and without abrasion of cutting material. It is possible to modify or design the product according to customer's requirements.

The company was found in 1994 and has its own development department with high graduated staff that has long-time experiences in research of cutting systems, and is offering products exclusively from its own development.

Innovations and advantages of the offer:

With new ultrasonic cutting technology it is possible to cut different substances (rubber, food, cardboard, foil) with loss-loss method, which is a main advantage compared to classic cutting methods with discs or wires. More, by cutting specific substances as foil it is almost impossible to cut without ultrasonic. So the cutting process with ultrasonic cutting is more effective and the price of these systems is low. Other important benefit of ultrasonic technology is the possibility to adapt it also to older machines and equipment.

Current and Potential Domain of Application:

Potential areas of application are:

- in the clothing industry - cutting of fabric,
- in the automotive industry - cutting of plastic,
- in waste management - cutting of door isolators by demolition of old cars.

Intellectual Property Rights: Secret know-how

Collaboration Type:

- Joint further development
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process

The company is looking for: industrial companies, or importers from automotive, clothing, waste or food industry interested in the use of ultrasound technology.

Precyzyjna i łatwa w użyciu centrownica do kół rowerowych

High-precision and easy to use bicycle wheel truing stand

(Ref: 10 DE 1168 3GM5)

Niemieckie MŚP opracowało centrownicę nowej generacji do kół rowerowych. Nowo opracowane urządzenie oferuje prostą i szybką obsługę bez konieczności posiadania wiedzy na ten temat. Przedsiębiorstwo poszukuje: 1) licencjobiorców do produkcji i dystrybucji systemu (zwłaszcza poza Europą Środkową), 2) producentów kół rowerowych do wykorzystania narzędzia do wewnętrznej kontroli jakości produktu oraz 3) wszystkich podmiotów (jak warsztaty rowerowe, spersonalizowanej budowanie kół rowerowych itp.) zajmujących się rowerami.

A German SME has developed a new generation of wheel truing stand for bicycle wheels.

Background:

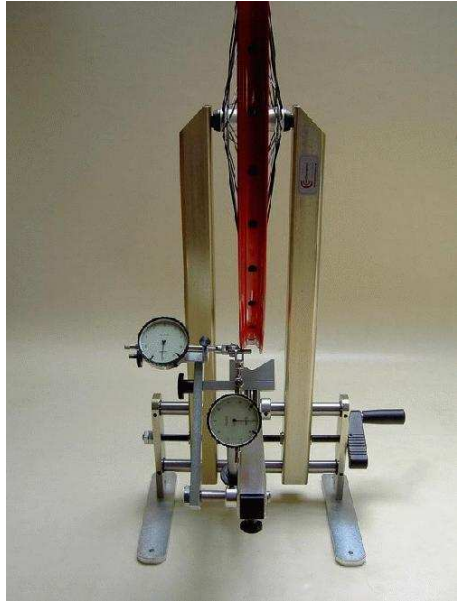
The spokes stabilise the wheel - but only when they have the optimal tension. The tension of the spokes must be steady-going to avoid a wobbling wheel. Wheel truing is necessary to prevent a turbulent run of the wheel and a turbulent cornering ability, to avoid increased road resistance and increased abrasion of the tyres and bearings, and deficient function of the wheel rim brakes. In addition, bicycles with new spokes must undergo wheel truing, and a second time after some hundred kilometres driving route.

The problem:

Besides using the proper tool, a lot of experience, time and often patience is needed as well to achieve optimized truing of the wheel.

The solution – an innovative device:

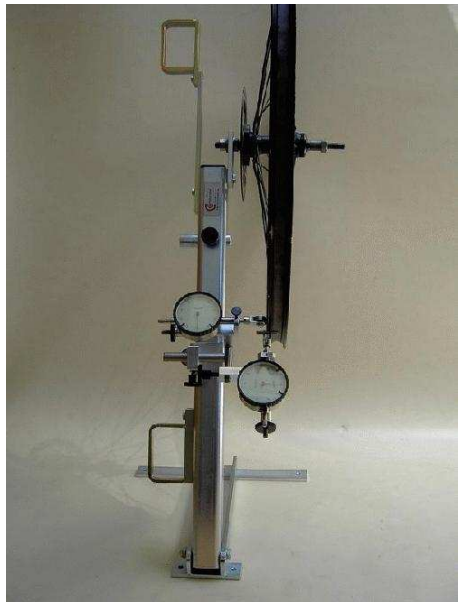
This device offers simple handling. At first the pre-press device has to be clamped between wheel support arms and rim. Then the lever should be pressed downward, forcing the rim to the side (amplitude of dial gauge appr. 3-4 mm). After pre-clamping the user should turn the wheel appr. 1-2 times. This procedure has to be repeated on the opposite side. Finally the wheel should be centred again and the procedure be repeated until the desired spoke tension is reached.



Innovations and advantages of the offer:

Present systems already on the market operate as follows:

1. At present-state-of-the-art truing stands the hub widths must be calibrated towards rim widths or the bicycle must be even calibrated fold-over.
2. So far bicycles are fixed to the truing system with additional devices like quick-acting clamps, screw nuts or adapters or cannot be fixed according to their dimensions.
3. In most cases the truing process is carried out by approaching the rim - thus the truing process must be repeated several times.
4. To pre-press the wheel the wheel must be removed from



the wheel truing stand in order to remove the torsion of the spokes apart from the stand.

Innovative aspects of the new truing stand regarding the 4 aspects mentioned above:

1. No measuring or calculating of hubs and rims (also eccentric).
2. All commercially available bicycles can be clamped without additional tools.
3. Immediate centre pointing from first spoke on.
4. The wheel can be pre-pressed within the wheel truing stand - Immediate centre pointing from first spoke on means 50% time saving.
 - Pre-pressing in wheel truing stand means 90% time saving.
 - Simple and safe handling - easily comprehensible for laymen without previous knowledge.
 - The system can be used for all commercially available bicycles.
 - Small space requirement (free standing, bolted or in the vice).
 - Fully galvanised with hardened guidance.
 - The readout system is manually and individually adjustable.
 - The system can be combined with a software programme qualified for lab-quality stress check of the wheel.
 - Also useful for truing wheelchairs, etc.

Further Information (Technical Details Concerning the Profile):

The main characteristics of the device are as follows: - New clamping system for all axle diameters (also downhill) - New clamping system for all wheel hub sizes - New measuring system including centre position finder (dial gauges for side and height) - The system is available with a pre-press device
Technical data: - Span hubs up to 168 mm - Wheel diameter 12-30 inches - Weight appr. 20 kg.

Intellectual Property Rights: Patent(s) applied for but not yet granted.

Collaboration Type:

- License Agreement
- Financial Resources

Type of partner sought: Licensing only to professional and specialised "global players" who are able to produce and distribute or at least to distribute the truing stand, e.g. by including the device in their product portfolio.

Specific area of activity of the partner: Sectors preferred: producers of bicycle wheels; all actors, like workshops dealing with (high quantities of) bicycles.

Task to be performed by the partner sought: A producer of bicycle wheels could use the system for internal product quality assurance of its product; workshops could use the system for repairing and truing bicycle wheels and for a professional custom wheel building process.

Innowacyjne urządzenie do cięcia taśmy z siatki metalowej rozciąganej *Innovative Expanded Metal Lath Cutting Machine*

(Ref: 10 TR 99PD 3GGY)

Tureckie MŚP opracowało urządzenie do cięcia taśmy z siatki metalowej rozciąganej o pożądanym wymiarach. Urządzenie to tnie pięć razy szybciej w porównaniu do obecnych metod cięcia. Przedsiębiorstwo to pragnie zawrzeć umowę handlową i o współpracy technicznej z firmami produkującymi urządzenia z sektora budowlanego w celu dalszego rozwoju.

Expanded metal laths are used between bricks in constructions. They provide walls to act as mono-blocks without breaking up into pieces in earthquakes. These laths are cut into pieces by labourers by hand according to brick types and thicknesses. The method of cutting by hand not only increases labour cost but also ruined material.

A Turkish firm has realised this problem and developed a machine that can cut expanded metal lath in desired dimensions. Thanks to this machine, labour costs are decreased, discards are reduced.

The company wants to do commercial agreement and technical cooperation with the companies in machinery, construction sectors for further development.

Innovations and advantages of the offer:

This invented machine with 120 beats per minute, makes five times faster cutting than existing cutting methods. Labour costs are decreased, discards are reduced.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint further development
- Adaptation to specific needs

- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: companies.

Specific area of activity of the partner: machinery and construction.

Task to be performed by the partner sought: further development on cutting machine.

Precyzyjny system do obróbki laserowej małych rurek (stentów)

High precision laser processing system for small tubes (microcut stent)

(Ref: 10 DE 1067 3GG0)

Niemieckie MŚP opracowało bardzo dynamiczny system do precyzyjnej obróbki laserowej do produkcji stentów, igieł chirurgicznych, części do endoskopów i innych komponentów wykonanych z niewielkich rurek. Przedsiębiorstwo jest zainteresowane nowymi użytkownikami końcowymi systemów precyzyjnych, warsztatami do obróbki laserowej części precyzyjnych oraz firmami zajmującymi się technologiami medycznymi. Planuje się współpracę techniczną.

A German SME has developed a high-dynamic laser precision processing system for the production of stents, surgical needles, parts for endoscopes and other components made of small tubes. The machine concept has been designed, developed and produced for manufacturing of medical engineering products and other parts made of small tubes. It includes:

- High precision tube work,
- Microdrilling,
- Laser microstructuring

Technical specifications:

Number of axes: 2 (x,A) plus manual vertical adjustment,

Working range x: 250 mm,

Rotating axis (A): $n_{max} 400 \text{ min}^{-1}$,

Resolution of measuring system: 100 nm,

Velocity, max.: 300 mm/s,

Acceleration: 20 m/s²,
Radial runout: 3 µm,

Innovations and advantages of the offer:

- Compact, vibration-reducing construction out of hard stone,
- Innovative drive and control technology, based on direct drives,
- Highest dynamic and manufacturing tolerances in the range of microns,
- Pneumatic clamp technology and automated tube handling,
- Different laser sources are integrable,
- Equipment for wet cutting.

Intellectual Property Rights: Copyright(s) registered.

Collaboration Type:

- Testing of new applications
- Adaptation to specific needs

Type of partner sought: Industry.

The specific area of activity of the partner: End users for high precision engineering, laser job shops for precision parts, medical technology companies.

The tasks to be performed: Joint development and adjustment of customised applications and solutions, system integration.

Ekologiczny proces wiercenia poziomego dla prac na małej powierzchni i bez wykopów

Ecological process of horizontal drilling for small spaces and trenchless works

(Ref: 10 FR 38n0 3GGM)

Francuskie MŚP specjalizujące się w wykonywaniu prac publicznych bez wykopów opatentowało nowy proces kierunkowego wiercenia poziomego. Urządzenie umożliwia dokonywanie przyłączy wody, energii elektrycznej lub gazu (itp.) bez naruszania powierzchni dróg publicznych. Przedsiębiorstwo poszukuje partnerów do umów licencyjnych.

French SME, manufacturing material for trenchless work (coring, drilling machine...), patented a new process for horizontal directional drilling.

When a subterranean distribution network is required to be built or replaced, a trench is usually dug out on the roadway. This technique causes pollution and creates other inconveniences such as dust, noise and often leads to the interruption of the traffic. A more ecological process, called “trenchless works” has been developed in the past years and a French company recently adapted it to small spaces. It consists of a horizontal directional drilling machine mounted on a hydraulic mini-digger. It allows drilling from 5 to 50 m long and up to 20 m deep. A transmitter is placed in the drill bit, which provides information to the operator who is driving the drilling machine.

Before drilling, a “radar apparatus” can scan the ground to localize obstacles and previous networks and avoid accidental breaks.

The company is looking for partners for licence agreement.

Innovations and advantages of the offer:

With this revolutionary drilling machine, there is no more trench on the roadway and most of the inconvenients of the traditional methods are eliminated: no more traffic interruption and no more traffic jam; no more dust, no more waste or rubbish to get rid of, less noise. That’s why this technique is called “eco-friendly”.

Time of works is reduced (about 3 days against 8 with a traditional method).

Due to its small size, this machine is particularly adapted to confined spaces, such as urban spaces, pavements or alongside safety railing.

Current and Potential Domain of Application:

- Distribution networks (electricity, telecommunication, gas, water and waste water...),
- Horizontal multidirectional geothermal energy.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- License Agreement

Type of partner sought: companies.

Specific area of activity of the partner: construction and public works (water or gas distribution, telecommunication...).

Task to be performed by the partner sought: manufacture and sell the machine.

Know-how do produkcji sprzętu grzewczego opalanego biomasą (peletami)

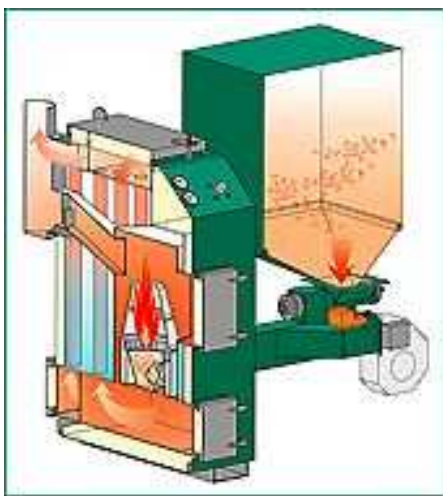
Know-how for biomass (pellet) heating equipment production

(Ref: 10 LV 58AD 3G8S)

Łotewskie przedsiębiorstwo opracowało oryginalne linie produkcji sprzętu grzewczego opalanego biomasą (do spalania peletów) do stosowań prywatnych i przemysłowych. Przedsiębiorstwo oferuje know-how i technologię partnerom przemysłowym do produkcji sprzętu grzewczego w oparciu o umowę licencyjną, a także poszukuje partnera do współpracy nad opracowaniem nowych produktów.

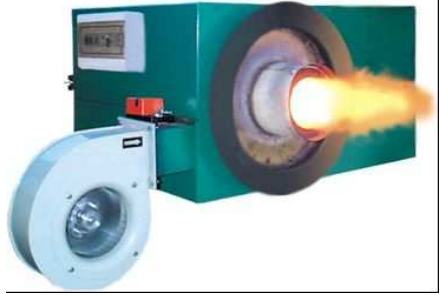
A Latvian biomass pellet boiler manufacturer has a lasting experience in development of technologies and systems for pellet burning and production of various types of heating equipment. The company's quality management system complies with ISO 9001:2008 standard requirements. It has ~10 collaboration partners in European countries.

The company offers for industrial partners to set up a production of pellet boilers under license agreement, establish joint venture, cooperate in development of new products or start up other type of collaboration. The offer includes know-how for production of 7 groups of products plus accessories; training in product service and maintenance (manuals); marketing materials.



Innovations and advantages of the offer:

- High added value - low production and administration costs; high market demand;
- Quality of products - production technology is developed for simple and fast production process that guarantees constant quality to every unit produced;
- Flexibility - only standard metalworking equipment is needed for production;
- Robustness of products - only few moving parts that can break down or wear out; can be used in harsh environments;
- Simplicity of products - simple to install, use and maintain; advanced electronics for simple control and programming;
- Efficiency of products - technology is developed to get maximum heating efficiency from pellets of different quality and type – wood, straw, peat, grain, corn, etc.;
- High social awareness on ecology and green energy issues.



Current and Potential Domain of Application:

- Heating for households,
- Heating of public areas,
- Heating of warehouses, industrial areas, etc.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Joint further development
- Adaptation to specific needs
- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: industrial manufacturer.

Specific area of activity of the partner: heating equipment producer.

Task to be performed by the partner sought: starting the production of offered products; cooperation in new product development.

Mikrospawanie – proces na zimno do naprawy np. zadrapań lub utłuczeń

Micro welding - a cold process for repair of e.g. scratches or impact marks

(Ref: 10 DK 20B3 3GEC)

Nowoczesne przedsiębiorstwo z Danii specjalizujące się w naprawie i produkcji śrub napędowych i sterów korzysta z technologii zwanej mikrospawaniem. Jest to proces na zimno, więc nie mają tu miejsca odkształcenia ani naprężenia wewnętrzne. Technika ta jest stosowana do naprawy zadrapań i utłuczeń o szerokości kilku mm na obszarach, które nie tolerują normalnego spawania. Przedsiębiorstwo oferuje umowy produkcyjne jako podwykonawca oraz umowy handlowe wraz z pomocą techniczną.

Micro welding is a cold process so neither distortion nor internal stress of the part will occur. The technique is used to repair scratches and impact marks of several mm on areas that do not tolerate normal welding.

The technology is used for shaft repair, but has a wide potential concerning repair of scratches/marks in other sectors e.g. printing presses, paper industry, mould repair.



The company has achieved the certificate from all major classification societies for micro welding.

Innovations and advantages of the offer:

Often there is a very good economic advantage in repairing as well as time for delivery of new equipment is of great concern.



Current and Potential Domain of Application:

Repair of shafts.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Testing of new applications
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: Industry.

Specific area of activity of the partner: E.g. marine repair, paper printing.

Task to be performed: Implementation.

Przenośne pięcioosiowe urządzenie do miejscowej obróbki maszynowej

Mobile 5-axis machine tool goes to the work piece

(Ref: 10 DE 0957 3G4O)

Niemieckie przedsiębiorstwo z Saksonii opracowało przenośne urządzenie zdolne do miejscowej obróbki maszynowej dużych części o dokładności i wydajności ambitnych urządzeń stacjonarnych. Urządzenia takie jak np. wirnik turbiny gazowej można naprawić na miejscu z wykorzystaniem przenośnego urządzenia. 5-osiowe urządzenie do obróbki maszynowej wyróżnia konstrukcja modułowa, co pozwala na dostosowanie do wszelkich wymogów specjalnych. Spółka szuka partnerów z branży obróbki metali zainteresowanych umową handlową wraz z wsparciem technicznym.

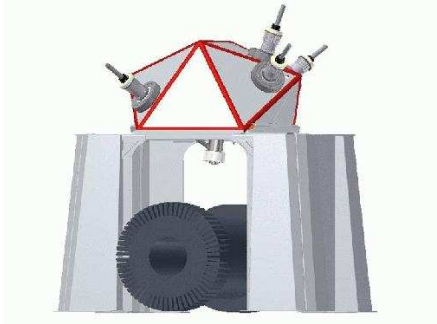
The mobile machine newly developed by a Saxon company, in Germany, has been derived from a family of static machines which are distinguished by both low mass movement owing to the replacement of mechanical components by mechatronic ones and a modular construction enabling simple and affordable customization to any special production requirement.

The mobile machine may be placed on-site in power stations, e.g., in order to repair big and heavy parts like gas turbine rotors.



The machine provides an operation accuracy of $\pm 0,010$ mm and a repeat of accuracy of 0,003 mm. A high machining speed of up to 45 m/min and acceleration in all directions of up to 10 m/s² can be achieved.

The application spectrum involves simultaneous 5-axis machining of various materials, high speed cutting, hard milling, out of round turning and turn-milling, respectively, as well as the accomplishment of roboter functions like getting the work piece with the main spindle. Optionally, laser machining and work piece measuring may be integrated.



Innovations and advantages of the offer:

- The mobile machine tool goes to the work piece, thus allowing for local processing extremely big and heavy parts.
- The mobility of the machine does not impair its accuracy and efficiency, which remains the same as ambitious static machines.
- The machine may be easily and swiftly mounted on the ground.
- Saving time and costs by transporting the machine instead of the work piece.
- Energy saving due to the replacement of mechanical by mechatronic parts, thus low connection power.

Current and Potential Domain of Application:

Local high-precision machining of big and heavy parts from various materials.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- Assembly
- Technical consultancy
- Maintenance

Type of partner sought: Industrial partners.

Specific area of activity of the partner: From the metal working branch, particularly such ones dealing with the repair and maintenance of big plants.

Task to be performed by the partner sought: Partners are sought for commercial agreements with technical assistance. Support will be provided to the partner with the assembly of the modular machine tool, with technical consultancy, maintenance and training of operators.

Podajnik wraz z sytemem kamer wskazującym ułożenie części

Feeder with a camera system for orientation of parts

(Ref: 09 CZ 0754 3F3Z)

Niewielkie przedsiębiorstwo z Czech opracowało podajnik z systemem kamer wskazującym ułożenie części kładzionych naprzemiennie lub części trudnych do umieszczenia z wykorzystaniem metod standardowych. Podajnik ten wyróżnia się dużą szybkością, dokładnością ułożenia oraz wysoką niezawodnością. Przedsiębiorstwo poszukuje partnerów zainteresowanych nowym sposobem wykorzystania systemu oraz zmianą obecnie stosowanej technologii.

The feeders are designed for moving different parts. The company has developed feeders with a camera system. Feeders with a camera system are designed for moving and orientation of the parts which are difficult to put in place, using by standard methods. Advantage is their high speed, accurate position and high reliability. The identification of the parts and their position is monitored by a camera. The capture and the position of the part is managed by a manipulator with an electric servomotor. The company provides comprehensive solutions, including bins with the parts and transport.

Innovations and advantages of the offer:

Innovations of the feeder are high speed, accurate positions of the parts and high reliability of the feeder. Advantage of reducing noise, simple solution orientation of parts, system does not introduce any vibration in equipment, minimum consumption of compressed air.

Current and Potential Domain of Application:

Industrial manufacturing.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly
- Engineering
- Technical consultancy

Type of partner sought: manufacturing industry.

Specific area of activity of the partner: producer of machinery equipment.

Task to be performed by the partner sought: use of the system, commercial cooperation agreements.

System wkręcania śrub, nakrętek lub części po obróbce ***System for screwing bolts, nuts or processed parts***

(Ref: 09 CZ 0754 3F3Y)

Niewielkie przedsiębiorstwo z Czech opracowało system wkręcania śrub, nakrętek lub części po obróbce. Przedsiębiorstwo oferuje różne rodzaje systemu, np. automatyczne podawanie śrub, próżniowe dociskanie śrub, pozycjonowanie w trzech osiach przy pomocy silników skokowych itp. Przedsiębiorstwo poszukuje partnerów zainteresowanych nowym sposobem wykorzystania systemu oraz zmianą obecnie stosowanej technologii.

Screwing system is intended for screwing bolts, nuts or processed part. The company supplies various kinds of implementation from simple to precise system with management and recording of moment and position, and necessary archiving. The system can be completed with fully automatic submission of parts.

Innovations and advantages of the offer:

- different situation screwdriving axis,
- variety of the kinds of implementation from simple to precise system,
- management and recording of moment and position,
- archiving.

Current and Potential Domain of Application:

Industrial manufacturing.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly
- Engineering
- Technical consultancy

Type of partner sought: manufacturing industry.

Specific area of activity of the partner: producer of machinery equipment.

Task to be performed by the partner sought: use of the system, commercial agreement with technical cooperation.

Asynchroniczny liniowy system paletowania *The asynchronous linear pallet system*

(Ref: 09 CZ 0754 3F41)

Niewielkie przedsiębiorstwo z Czech opracowało asynchroniczny liniowy system paletowania zapewniający dokładne pozycjonowanie palet na stanowisku roboczym. Zaletą systemu jest kompensacja niewielkich awarii indywidualnego stanowiska roboczego bez potrzeby zatrzymywania całej linii produkcyjnej. Przedsiębiorstwo to poszukuje partnerów zainteresowanych nowym sposobem wykorzystania systemu oraz zmianą obecnie stosowanej technologii u partnera.

The asynchronous linear pallet system consists of conveyors, pallets and specialized integrate stoppers, ensuring accurate positioning of pallets in the workplace. The advantage compared with the linear arrangement of station carousels is the possibility of fitting work from both sides of the belt. The asynchronous system compensates for minor breakdowns of individual workplace without the need to stop the entire production line. Pallets accumulate before the workplace, and after the restoration of the functioning of the workplace they shall be processed.

Innovations and advantages of the offer:

- the possibility of fitting work from both sides of the belt,
- compensation for minor breakdowns of individual workplace without need to stop the entire production line.

Current and Potential Domain of Application:

Industrial manufacturing.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Assembly

- Engineering
- Technical consultancy

Type of partner sought: manufacturing industry.

Specific area of activity of the partner: producer of machinery equipment.

Task to be performed by the partner sought: use of the system, commercial agreement with technical cooperation.

Produkcja z wykorzystaniem precyzyjnych części metalowych o cienkich ściankach wykonanych w technologii odlewniczej na różne rynki

Production through Investment Casting technology high accuracy thin wall metal parts for various markets

(Ref: 09 IL 80ER 3DVV)

MŚP z Izraela prowadzi produkcję precyzyjnych części metalowych o cienkich ściankach wykonanych w technologii odlewniczej dla zastosowań wojskowych, aeronautycznych, medycznych, energetycznych i wodnych. Produkty gotowe przechodzą rygorystyczne testy fizykochemiczne w celu zapewnienia, iż spełniają dokładne wymogi klientów. Przedsiębiorstwo to chce rozszerzyć działalność poprzez umowy o współpracy technicznej i umowę produkcyjną obejmującą podwykonawstwo i wykonawstwo.

An Israeli SME produces through the Investment Casting technology, thin wall metal parts with high accuracy for the military, aeronautical, medical, energy and water production markets. While using this Investment Casting technology the SME is propelling the world's oldest technology to the cutting edge. At the foundry of the SME the team is able to design and produce custom-made steel and super alloy parts for a broad range of industries using this cost-effective technology. The SME experienced team of engineers welcomes challenging projects for the most intricate parts while monitoring every step of the investment casting technology with attention to every detail. The finished products are subject to rigorous physical and chemical tests to ensure that the products meet the exact demands of the clients. The SME is certified to the Aerospace Standard AS9100B and by NQA and ISO, a standard of excellence recognized around the world. The SME is looking to expand their business through Technical Cooperation and through Manufacturing Agreement which will reflect Subcontracting and Co-contracting.

Innovations and advantages of the offer:

The technology used by the SME, the Investment Casting technology, can produce complicated shapes that would be too costly, difficult or even impossible to be produced with machining technology. The SME is harnessing its decades of experience to produce anything from a stainless steel turbine blade to a medical tool wielded by a surgeon. The SME does all its production with accuracy, repeatability, versatility and integrity in a variety of metals and high performance alloys.

Current and Potential Domain of Application:

Distributors, importers, wholesalers and producers of fine high accurate metal products.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process

Type of partner sought: Distributors importers and wholesalers of fine and accurate metal products.

Specific area of activity of the partner: Production and supply of metal products.

Task to be performed: Implement in the new market an absolutely new product through adaptation to specific needs.

Produkcja precyzyjnych części mechanicznych, komponentów i podzespołów dla branży kosmicznej i medycznej oraz innych sektorów komercyjnych
Production of high precision mechanical parts, components and sub-assemblies for the aerospace and medical industries and other commercial sectors

(Ref: 09 IL 80ER 3EEP)

MŚP specjalizuje się w produkcji wyjątkowych precyzyjnych części mechanicznych, komponentów i podzespołów dla branży kosmicznej, a także instrumentów medycznych i dla innych sektorów komercyjnych, z wykorzystaniem technologii obróbki maszynowej. Przedsiębiorstwo to chce rozszerzyć działalność w Europie poprzez umowy spółki i umowy produkcyjne obejmujące podwykonawstwo i wykonawstwo.

An SME specializes in the production of high precision and unique mechanical parts, components and sub-assemblies for the aerospace industries as well as for the medical instruments and other commercial sectors, performed through the machining technology. Among the unique and innovative parts produced by the SME are aerospace parts such as high complex aerospace parts and sub assemblies, which require a wide range of machining technologies, combined with complicated coating operations. The raw materials used by the SME through the production process are mainly Aluminum, Aluminum- Bronze, Stainless Steels and other exotic aerospace materials such as Titanium, Invar, Kovar, Hymu, Inconel, Discaloy (A286), Waspalloy as well as more standard materials such as Copper and more. The unique machining technology which is used by the SME together with wide experience which the SME has enables them to produce complex aerospace castings, with tight tolerance dimensions, combined with various coating operations. The following are some examples of the complex parts produced by the SME for the aerospace industry which are Aircraft Landing Systems, Flight Safety Products & Systems, Flight Control Systems, Fluid Measurement Systems, Hydraulic, Fuel and Pneumatic Systems, Electronic Control Systems, Engine Controls, Auxiliary Power Units, Electro Optic & Electro Mechanic Systems. For the medical industry the SME produces unique parts which are being used in MRI systems, Orthopedic devices and Spinal implants. The SME is well known locally as the leading subcontractor for unique and high quality production of aerospace and medical parts. The SME is well known as well for its precision, for its quality, and for its delivery and service from the start up to the finished part. The SME is able to turn the

design concept into a final successful product. As well the SME is known for its offering competitive prices, without any compromising in the quality. The SME wishes to expand its activities in Europe mainly in the Aerospace and in the Medical Industries and for this purpose the SME is looking for the relevant parties who could connect him to those industries. The methods through which the SME would like to be connected with those parties are joint venture agreements and manufacturing agreements which will reflect subcontracting & co-contracting.

Innovations and advantages of the offer:

The SME uses in its production 18 CNC machines, 10 ERP System Stations, CAD/CAM-1, Solidwork-1, Cimatron Ver.11.11-2, 3 CMM machines, Computerized SPC Station, and Approved Quality Assurance Programs which comply with ISO 9002, AS 9100 and ISO 14001. The SME has as well specially trained personnel which carry out the QC in a well-equipped inspection room.

Current and Potential Domain of Application:

Machining plants who wish to update their technology and enlarge into new markets and importers of unique and innovative machining parts.

Further Information (Technical Details Concerning the Profile):

The SME production engineering staff uses an advanced CAD-CAM system. The 30 skilled production workers operate a wide range of modern equipment including 7 CNC machining centers and 8 CNC turning centers in a 1200 square meters production facility. Additional production processes performed by the SME is a group of Sub-Tiers which include Grinding, Lapping, EDM & Wire Cutting, Stamping, Forming, Welding & Brazing, Aluminum Coating through Chemical Conversion and all kinds of Anodizing. As well the SME is able to perform Stainless Steel Cleaning & Passivation, All types of painting including Dry Lubrication, Other coatings such as Electroless Nickel, Silver coating, Cadmium coating, Sand Blast & Shot Peening, Heat Treatments & Nitriding, FPI,MPI & Radiographic Inspection. All of the processes are approved by the SME customers to aerospace standards.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- Transfer of knowledge in new raw materials
- New way to use an existing production line

- Absolutely novel process
- Technical consultancy

Type of partner sought: Producers and importers.

Specific area of activity of the partner: Production and supply of unique and innovative machining parts for various applications.

Task to be performed by the partner sought: Implement in the new market an absolutely novel technology and products.

Amortyzatory zdolne do tłumienia małych i średnich ruchów części ruchomych, jak pokrywy, pudła i kosze
Dampers able to smooth small and medium movement in kinematic parts like covers, boxes and bins

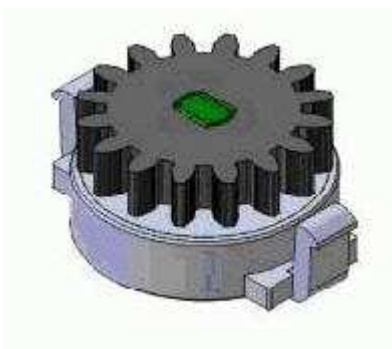
(Ref: 09 IT 52T2 3FNJ)

Włoskie MŚP projektuje i produkuje standardowe, spersonalizowane i innowacyjne amortyzatory zdolne do kontroli dowolnych małych i średnich części ruchomych. Produkty te są wykorzystywane do poprawy percepcji jakości produktów. Amortyzatory te mają szeroką gamę zastosowań, od branży motoryzacyjnej w uchwytach na kubki, popielniczkach, pojemnikach na okulary, konsolach nad głową, podłokietnikach, uchwytach, schowkach, po wykończenia, urządzenia AGD, a nawet pudełeczka w branży kosmetycznej. Przedsiębiorstwo poszukuje partnera do współpracy technicznej.

Dampers are filled in with silicone viscous oil, welded or hot pressed and tested at 100% for the torque, or force.

The company produces compact and mini damper which include push push latch function or spring in order to decrease the number of components needed in very small application.

The company produces high torque axial dampers in relatively very small dimensions thanks to several patented solutions.



The company is also able to produce a wide range of standard rotary and axial damper and can customize dampers and help the customer in the design of new application with moving parts.

Innovations and advantages of the offer:

Testing of 100% of the products.

Use of patented welding or sealing solution which ensure an high resistance to temperature and cycling.

Dampers which resist to 95°C degree and some model up to 130°C

Capability to produce dampers able to exceed 600 000 cycles.

Possibility to customize or create brand new damper for new applications.

In the same dimensions the company can achieve from 50% to 300% higher torques.

Due to some patented solutions and to the use of the most modern assembling techniques, the company can offer also a very competitive pricing even for very big volumes.

Current and Potential Domain of Application:

Dampers are used in a wide range of applications, from automotive in the cupholders, ashtray, sunglass bins, overhead consoles, armrest, grab handles, glove boxes to furnishing, home appliance till to small boxes in the cosmetic business.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- Assembly

Type of partner sought: Industries, SMEs.

Specific area of activity of the partner: Automotive, Electronics, Furniture.

Task to be performed by the partner sought: The company is interested in commercial agreements with technical assistance.

Analiza cieplna do chłodzenia oświetlenia LED *Thermal Analysis For Cooling Of Led Lightening*

(Ref: 09 TR 98OB 3FIW)

Firma turecka doświadczona w analizie przepływu i analizie cieplnej świadczy usługi analizy cieplnej mechanizmów wykorzystujących lampy LED. Dzięki temu można diagnozować i naprawiać problemy związane z przepływem i charakterystyką cieplną długo zanim zbudowany zostanie fizyczny prototyp, co redukuje nakład czasu, czas wdrożenia i poprawia jakość produktu. Spółka szuka partnerów zainteresowanych umową handlową wraz z wsparciem technicznym.

LED technology which makes high brightness with low energy possible, turns 70% of the energy it consumes into heat energy. In this way, both the lifespan of LED lamps are shortened and performance of the systems where these lamps are used is reduced.

Upon realizing the problem, The Turkish company sought solutions and began to give thermal analysis service for mechanisms where LED lamp is used. Thanks to this, flow and thermal problems can be diagnosed and fixed long before a physical prototype is built which will reduce cost time, time to market and improve product quality.

The Turkish company is looking for commercial agreement with technical assistance.

Innovations and advantages of the offer:

The Turkish company determines the appropriate design by measuring the heat-dependant performance of every system where LED lamps are used with 3D simulation software. It integrates the cooling systems in compliance with this design into the mechanisms. In this way, underperformance arising from both design of the system and heat released by LED lamps is prevented.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs

- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process

Type of partner sought: companies.

Specific area of activity of the partner: Automotive sector and sectors that use LED lightening systems.

Task to be performed by the partner sought: further development.

Poprawa właściwości metali dzięki uważnie monitorowanej obróbce na zimno

Improving material properties of metal through careful monitored cold treatment

(Ref: 09 NL 60AH 3EPP)

MŚP z Holandii potrafi zmieniać właściwości, a tym samym jakość obecnych produktów metalowych dzięki zastosowaniu uważnie monitorowanej obróbce na zimno. Proces ten jest przeznaczony dla produktów, gdzie występują naprężenia wewnętrzne po obróbce (np. odlewanie, obróbka maszynowa, spawanie i utwardzanie). Proces ten przewiduje restrukturyzację i poprawę struktury molekularnej, co prowadzi do zupełnego usunięcia naprężeń. Przedsiębiorstwo poszukuje nowych zastosowań w branży kolejowej, produkcji turbin oraz w zakresie charakterystyki silnika.

The materials modification technology is a careful monitored cyclic cold treatment (temperature range from -185 gr.C up to +150 gr.C) which is specifically used for metal products (up to 1500x1000x600 mm, process alterations for taller products can be made). Process time can vary from 1 up to 3 days. This cold treatment foresees in restructuring of the metals crystal structure on nanolevel and therefore refining the molecular structure which leads to a homogeneous structure of alloys and metals. Due to this restructuring and refining the percentage of nanoparticles increases with the effect of complete stress relieve. All kinds of processing like hardening, casting, welding and machining results in material stress. The material modification technology relieves this kind of stress through refining of crystal structure.

The basic principle of this technology was discovered several decades ago within Swiss watchmaking industry, American space industry and by

Russian machine manufacturers. In the last example stock made casted machineparts were stored for one of two years in Siberian climate (cold winters, hot summers). After assembly it showed that materialstress was much less then parts that were not stored, which improved accuracy and performance of the machines. Identical experiences were found in Switzerland and the US.

The company did a lot of fieldresearch within auto- and motorsport applications. Results were very convincing concerning brakeperformance and durability. The company is now looking for other industrial applications such as gearboxes for windturbines, wheel- and brakesystems for rail transit industry, performance engines, tooling industry and brass music instruments (warmer and deeper timbre).

Innovations and advantages of the offer:

The material modification process can change the properties and therefore the quality of existing products. By applying this process the following changes will occur:

- Refining of the crystal/molecular structure,
- More homogeneous structure of the material,
- Better wear resistance,
- Better conductivity of heat and electricity,
- All internal stress from f.e. casting, machining, welding is relieved,
- Also better surface conditions through refining of the crystal structure.

Current and Potential Domain of Application:

- Auto- and motorsports and rail transit industry (Brake discs, drums, pads, more braking power and longer lifetime),
- Performance engine industry (cranks, pistons, camshaft),
- Tooling (drilling, milling, cutting, spotwelding, moulds, tool life prolongation),
- Turbine industry (e.g. gearbox),
- Brass music instruments.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Testing of new applications
- Adaptation to specific needs

Type of partner sought: industrial partners that are interested in enhancing material performance.

Specific area of activity of the partner: strong focus on rail transit, turbine and performance engine industry.

Task to be performed by the partner sought: joint adaptation to specific needs and applications.

Niskie zużycie energii przy bardzo wydajnej produkcji tłoczonych na zimno śrub i wkrętów w prasach mimośrodowych

Low Energy Consumption For High Efficient Cold Press Eccentric Bolts and Screws

(Ref: 09 TR 98OB 3FEM)

Tureckie przedsiębiorstwo wynalazło park maszynowy do produkcji tłoczonych na zimno śrub i wkrętów w prasach mimośrodowych. System ten charakteryzuje się prawie 50% mniejszym zużyciem energii w porównaniu do obecnie stosowanych systemów. Koszty produkcji spadają o ok. 10% w porównaniu do produkcji śrub na ciepło. Przedsiębiorstwo poszukuje partnerów do umów licencyjnych dla tego opatentowanego systemu.

Bolt manufacturing can be done in two ways: cold and hot bolt manufacturing. The hot manufacturing can be done by mixture of liquefied petroleum gas and pure oxygen gaseous at high temperatures. The cold manufacturing, on the other hand, eliminates the high manufacturing costs. Also cold forging type method is the worldwide accepted method.

The Turkish company has invented a cold forging machinery park system which produces bolts and screws in various thicknesses and eliminates the high heating costs, low production amounts. This innovative system is also based on cold manufacturing. On the other hand, in this patented machinery park, production costs of bolts and screws are lowered nearly %10 compared to hot bolt manufacturing system.

The company is looking for license agreement for this patented system

Innovations and advantages of the offer:

The production of cold bolts and screws in eccentric presses is based on the principle of cold manufacturing. In the classical way of cold bolt manufacturing systems, molds have to be produced and inserted to eccentric presses. So spending extra time and man power for changing them are disadvantages. Also special raw materials must be used while producing of cold bolts and screws. All these negative effects increase personnel and production costs.

In this innovative system there is no necessity for special raw materials for production. Production cost of mold is 60% cheaper when compared to current systems. In addition to lowering the production cost of molds that are used for manufacturing of bolts and screws in this innovative machinery park also production costs of bolts and screws are lowered nearly %10 by patented cold press system. The energy consumption of this innovative system is lowered; it consumes nearly 48% less. This system is comparatively small; the machine configuration space is 40% smaller.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- License Agreement

Type of partner sought: companies.

Specific area of activity of the partner: Bolt and screw manufacturing sector.

Task to be performed by the partner sought: further development.

Kompaktory budowlane o wysokiej częstotliwości *High-frequency compactors for construction*

(Ref: 09 DE 1375 3FHK)

Niemieckie MŚP opracowało innowacyjne ulepszenie koparki. Jest to nowe zastosowanie dla koparek, umożliwiające ubijanie wszelkiego rodzaju gruntów, a także unikające uszkodzeń budynków i rurociągów. Zastosowania dotyczą całej gamy czynności związanej z przygotowaniem i kompaktowaniem gruntu, a także inżynierii lądowej i podziemnej oraz budowy linii mediów komunalnych. Technologia ta została opatentowana. Pomysłodawca poszukuje nowych zastosowań przemysłowych.

The SME from Germany is specialized in production and automation of compressors in civil engineering and utility line construction. The innovation of the company has revolutionized the application of compressors in recent years. Meanwhile the developed technologies can replace common plate vibrators and trench compactors.

The soil compaction is the basis for lasting and stable buildings and roads. The compaction process grouts soil voids, which are filled with air and water. Due to this the bearing capacity increases, as subsequent subsidence decreases. The compression process is dependent on the in-site soil type.



Soil properties are highly differentiated, according to this, various parameters have to be considered when dealing with compaction equipment. To achieve the required compaction frequency, amplitude, power of impact and static load are the major variable parameters. Thus, in cohesive soils, such as clay, a low frequency is appropriated. On the other hand, when dealing with sandy soils, a high frequency is more adequate. Depending on the operating conditions it is also important to ensure that the impact force is not too high, so that damage to pipe systems and/or buildings may be excluded.

A classic case for this is an inner city area where a specific frequency is required to avoid the risk of resonance effects on buildings and underground utility line systems. To ensure a maximum compaction performance, while excluding resonance risks and associated collateral damage, this innovation has been developed.

The latest development works with a variable frequency of 35 Hz to 60 Hz for each full or reduced centrifugal force. Due to its special construction the technology is as good as wearless. Many years of experience in the field of compaction technology flows into the development of this innovation.

The technology benefits from the preceding models of the series, with respect to frequency range and power of impact. It also allows the operator to choose between three settings, without leaving the drivers cab.

Changing the mounting plates can be easily done by another innovative hydraulic driven add-on. Thus the excavator can do all the work without time-consuming exchanging of instruments. The different frequency and power of impact settings can directly be adjusted from the drivers cab.

Innovations and advantages of the offer:

- Application for cohesive and non-cohesive soils: one compression device for all types of soil.
- Very high reduction of vibrations in built-up areas: the optimal frequency range can be selected.
- A proven hydraulic control system allows the change between several instruments such as hammers or shears.
- Due to the adjustable impact force, damage to channels and supply lines are avoided.
- The innovation can be applied in deep trenches: risks of accidents, and the negative effects of the exhaust gas are reduced.
- Easy to use.
- It will reach the optimum compaction, and thus the requirement on the density and carrying capacity according to DIN EN 1610.
- Soils with low and high water content, which previously had to be replaced, can often be reused. This also reduces the transportation by truck and therefore the CO₂ emission.
- Damage on buildings and pipe lines is prevented.
- Compaction depth of 2 - to 3-times as high as grave or vibratory rollers. The capacity in m³/h is even up to six times higher.
- Due to the power increase, the cost of compression is reduced up to 70%.
- Better durability for the excavator, because compaction work can be done by the excavator itself.
- The workflow is automated.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process

Type of partner sought: User companies.

Specific area of activity of the partner: In the area of construction, civil engineering.

Task to be performed by the partner sought: Application of the novel technology.

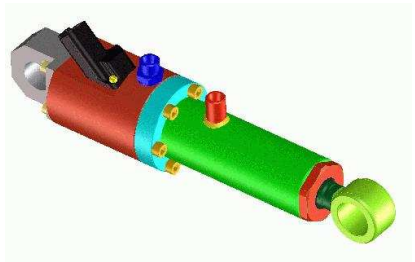
Siłownik hydrauliczny – Mechaniczno-hydrauliczny siłownik proporcjonalny z elektrycznie lub hydraulicznie nastawionym progiem zadziałania

Hydraulic Actuator - A mechanical-hydraulic proportional actuator with electric or hydraulic setpoint

(Ref: 09 DE 1375 3F6Z)

Niemieckie MŚP opracowało liniowe urządzenie dokładnie regulujące mechanicznie urządzenia hydrauliczne – nie jest konieczne sterowanie elektroniczne. Ten aspekt oferuje całą gamę nowych zastosowań. Jako przykład można podać możliwość wykorzystania tej technologii w warunkach zewnętrznych, gdzie otoczenie jest surowsze, a sprzęt musi być solidny i odporny. Złożono wniosek patentowy. Technologia ta jest już dostępna na rynku. Poszukuje się partnerów do opracowania nowych zastosowań oraz zintegrowania siłownika w procesy produkcyjne.

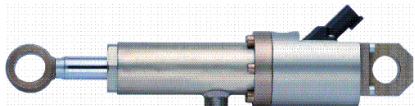
The German SME is specialised in the development and production of valves for unconventional tasks in innovative machine concepts. From one of these applications, the described innovation developed.



Up to now the problem of adjusting hydraulic actuators in different positions has been solved by electronic control:

With the occurrence of disruptive effects, the machine independently adjusts and returns back to the selected position. This process is handled by an electrical position sensor and control technology. Whereas the actual position of the plunger is compared by the set point and automatically corrected if any discrepancies arise. This is a complex and delicate system, which preferably is used in indoor applications. Arising from the question how this technology can also be applied outdoor, the hydraulic actuator has been developed.

Technically spoken this innovation is a hydraulically proportionally adjusting unit. This unit consists of a double-action cylinder and a 3/2- control valve. Here, the working pressure acts permanently on the plunger surface, the pressure which acts on the plunger head, is controlled mechanically by



the 3/2-way valve according to the power equation principle. The different target positions of the plunger are given by a proportional solenoid, which is configured by the operator. The distance from the actual to the desired position is achieved by a power-return-spring, which is connected with the 3/2 control valve. Due to this assembly the plunger will be mechanical-hydraulically adjusted via power equation of the return spring and the actual solenoid power.

This process does not involve any further electronic regulations of position detection and signal processing. There is no necessity of electronic regulation anymore. The process runs directly, automatically and integrated in the unit.

Innovations and advantages of the offer:

From this description there can be derived the benefits of the innovation:

- Integrated position control, therefore no further control/regulation,
- Very compact construction,
- No additional electronics for control/regulation,
- Direct connection of Pressure- and Tank system,
- Low dirt and noise sensitivity.

Current and Potential Domain of Application:

- machines and commercial vehicles,
- agricultural vehicles.

Intellectual Property Rights: Patent(s) applied for but not yet granted.

Collaboration Type:

- Testing of new applications
- Adaptation to specific needs
- New way to use an existing production line

Type of partner sought: Industry.

Specific area of activity of the partner: Production of machines and commercial vehicles.

Task to be performed by the partner sought: Development of new applications. Adoption of the technology in production processes.

Technologia mielenia fotochemicznego do produkcji obiektów precyzyjnych

Photo Chemical milling technology to produce high precision objects

(Ref: 09 IT 54V7 3ESC)

Włoskie MŚP oferuje proces mielenia fotochemicznego do różnych zastosowań. Proces obejmuje kontrolowane usunięcie cząstek metalowych poprzez rozwiązania łączące w sobie działanie chemiczne i fizyczne. Jest to szczególnie dogodnie w przypadku obiektów bardzo precyzyjnych o skomplikowanej geometrii, przy czym rozwiązanie to może być stosowane do szerokiej gamy metali i stopów o dużej skali grubości. Przedsiębiorstwo poszukuje partnera przemysłowego lub ośrodków badawczych produkujących lub wykorzystujących komponenty precyzyjne.

The company, founded in 1970, was the first Italian company to develop the process of photo chemical milling for the application in several markets as Eyewear, Telecom, Aerospace, Automotive, Medical, Consumer electronic, Micromechanics, Micro fluidics.

Photo chemical milling is a high technology process which basically consists of controlled removal of metal particles through solutions with a combined chemical and physical action. This process is particularly convenient in the case of high precision, complex geometry objects, and can be used for a wide range of metal and alloys, with a broad scale of thicknesses. Tolerances can be as tight as a few tens micron.

The company has also a laser micro cutting production line: with this technology extremely high precision parts can be achieved with tolerances down to 10 microns on thicknesses from 0,050 to 0,800mm. Apertures of thin as 20 microns can be easily achieved.

The company can assist and support customers from a drawing, a sketch or a sample, through the choice or suggestion of the right material. They have also a wide range of raw materials always available from stock, to the production of first prototypes or mass production of complex flat metal parts, some application examples are EMI / RFI shielding enclosures, board level interconnections and cans, contacts, springs, gaskets, washers, shims, leas frames, antennas, contact strips, heat sinks, bus burs, part of filters, meshes, identification plaques, stepped lids, scalpels and surgical

blades, flat stents, stencils, ornamental parts, front and temples for eyewear, drive belt, injection plates, and many more.

Innovations and advantages of the offer:

To use photo chemical milling fast prototyping is always possible whatever the geometry of the part.

The cost of the part does not increase with complexity.

Delivery time is much faster than any competing technology, tooling costs are very low, the manufacturing process does not affect the material, whole molecular structure remains the same: parts are burr free, temper and magnetic properties remain unaltered, no strain or stress are generated.

Techniques as half etched bend lines facilitate complex hand forming of parts, saving the cost of hard tooling. Marking can be integrated with no extra cost.

The company offers complete service and support: parts can be delivered just etched or with any surface treatment, bent or formed to achieve the final 3D shape; any surface galvanic treatment, painting, coating, can be supplied at request and customers are assisted throughout the entire cycle.

Current and Potential Domain of Application:

Eyewear, Telecom, Aerospace, Automotive, Medical, Consumer electronic, Micromechanics, Micro fluidics.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Assembly

Type of partner sought: Industry; Research centres.

Specific area of activity of the partner: Production/Use of high precision and complex geometry objects.

Task to be performed by the partner sought: The company offers complete service and support: from the choice of the material to production of prototypes or mass production.

Wydajne prasy impulsowe o szerokiej gamie zastosowań *Highly efficient impulse presses with wide applicability*

(Ref: 09 BG 0528 3EWZ)

Bułgarskie przedsiębiorstwo wynalazło i opracowało prasy impulsowe o dużej sile impulsu przy wysokiej częstotliwości oraz amplitudzie impulsu od 1 do 10 mm. To rozwiązanie technologiczne oferuje dużą jednolitość, wytrzymałość oraz precyzję geometryczną ściskanego przedmiotu. Przedsiębiorstwo szuka partnerów przemysłowych zainteresowanych współpracą techniczną, produkcyjną i umową handlową.

The impulse presses consist of power frame (the body), upper feeding device, lower casting device and a power impulse generator in-between, on which the processing instrument or the press form is mounted.

The pressing process is performed by the power impulse generator, which impulse base is moving up- and downwards in amplitude of 1 to 10 mm, frequency of 5 to 50 Hz in dependence to the nominal force of the impulse press (for example 10 000 N).

The power impulse effect results in precise, thick and strong items, considerably better in terms of qualitative indices compared to such produced by conventionally used presses. For example, when pressing granulated corundum with given theoretical thickness of 4 gr/cm³ with the use of the power impulse press technology offered one can achieve thickness of 3,95 gr/cm³.

Innovations and advantages of the offer:

The impulse presses technology offered is new and patent protected in the leading industrial countries. The main advantage of the offered technology is that there are large impulse forces combined with high frequency at high amplitude of the movement of the impulse body. The pressed items feature high consistency, strength and precise geometrical proportions.

The impulse presses have lesser installed power, thus feature lower electricity consumption and have large exploitation life.

Current and Potential Domain of Application:

Impulse presses are applicable in the following spheres:

- Pressing of technical, ballistic, fireproof, construction and sanitary ceramics;
- Pressing of details from metal dust;
- Cold drawing and calibrating of metal parts and items;
- Stamping of coins or medals of deep profile and glossy surface;
- Pressing of concrete items – paving stones and slabs.

Intellectual Property Rights: Secret know-how.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Testing of new applications
- Adaptation to specific needs
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process
- Assembly
- Technical consultancy
- Quality control

Type of partner sought: Industrial partners.

Specific area of activity of the partner: Machine building, construction, mining, industrial materials processing.

Task to be performed by the partner sought:

License agreement – The impulse technology used in pressing is relatively new and guarantees higher quality of the product processes. The technology is applicable in many spheres and sectors of industry in general. The company is interested to assist the potential partners in integrating and adapting the technology to their needs via licence agreements regarding specific products – in this case power impulse presses.

Joint Venture agreements – The company is interested in entering a JV agreement with industrial partners for further development and manufacture of larger and more complex installations.

Commercial agreements with technical assistance – The company has the capacity to manufacture bespoke impulse presses according to client's specific technological and manufacturing needs.

Technologia udarowa zapobiegająca przedostaniu się nadmiernie dużych kawałków skał do systemu kruszarki *Breaker technology avoiding oversized rock pieces into the crusher system*

(Ref: 09 DK 20B7 3E2P)

Duńskie przedsiębiorstwo technologiczne działające na polu kamieniołomów i górnictwa, hutnictwa oraz wyburzeń, opracowało, opatentowało i wprowadziło na rynek technologię udarową z wykorzystaniem młota umieszczonego na koparce, wykorzystywaną w górnictwie, w kamieniołomach, hutach stali i w przemyśle recyklingu, której głównym zadaniem jest zapobieganie przedostaniu się nadmiernie dużych skał do systemu kruszarki. Przedsiębiorstwo to oferuje swoje prawa do produkcji w ramach umów licencyjnych w Chile, w Rosji i USA.

The concept works this way:

1. The operator places the breaker on top of the material which is to be broken.
2. The coupler will be hoisted and the hammerhead will follow to the top.
3. When the coupler reaches the top, it will release the hammerhead which will have a free fall to the bottom of the pipe which has been placed on the material to be broken.
4. As the hammer hits the item, it will release its kinetic energy and the material will break. The operator lowers the coupler to grip the hammerhead again.

The coupler is either mechanical or hydraulic which will grip and release the hammer through a special designed lifting tap on the hammerhead.

The hammerhead consists of ballast blocks, wear rings and an adapter which transfers the strain from the tip, which hits the material directly, to the ballast block.

The breaker is equipped with a suspension arrangement which can fit any type of excavator.

Innovations and advantages of the offer:

The breaker technology will work either at the area, where the oversized rock is being brought to or directly at the primary blasting area.

The idea is to break all oversized rock so the material can go directly into the crushing system without any further processing.

Due to the way that the breaker technology operates, it is possible to bring the breaker to the material and to process it instead of bringing the material to the breaker to be processed. In nearly all cases it is possible to have the breaker working close to other machines without danger. Further to this, when the material is processed most of the broken rock is a size that does not require the same amount of heavy equipment.

This has a considerable impact on:

- The safety for personnel,
- The investing in heavy equipment,
- The efficiency as the breaker gives an increase in the capacity,
- Wear and cost for maintenance.

By breaking the oversized material as early as possible, there will be no need for transporting large boulders, and the blasting area will be clean, when the excavation has finished.

Intellectual Property Rights: Patent(s) granted.

Collaboration Type:

- License Agreement

Type of partner sought: Company.

Specific area of activity of the partner: Mining, quarry, steel works, recycling.

Task to be performed: Production through license agreements.

Ostateczne rozwiązanie dla przesunięć liniowych *Ultimate solution for linear displacement*

(Ref: 09 ES 29G6 3EFB)

Hiszpańskie MŚP jest wiodącym producentem urządzeń do wyznaczania linii i tablic współrzędnych. Przedsiębiorstwo to specjalizuje się w oferowaniu spersonalizowanych rozwiązań dla ośrodków badawczych, uniwersytetów oraz wydziałów badawczo-rozwojowych dowolnego rodzaju przemysłu. Dzięki projektowi modułowemu można opracowywać dowolne rozwiązania zgodnie z szczególnymi potrzebami klienta. Firma oferuje elastyczność, szybką reakcję, krótki czas dostawy i konkurencyjne ceny. Przedsiębiorstwo poszukuje partnera do umów o współpracy technicznej w celu tworzenia spersonalizowanych rozwiązań.

A Spanish SME is leader in the design and manufacture of high quality linear units and coordinate tables. The company's portfolio includes more than 90 standard products of one axis, two axes, with rotary basis and vertical columns. Thanks to its modular design, they are able to provide any customised solution with a very competitive price.

Among their products, the company's slides have been designed with high quality requirements and special care in the usability of the CNC (computer numerical controlled) system, which is very easy to use and easy to learn, reducing the labour cost at start up.



These products can be installed in machine tool applications (such as drilling machines, lathes, grinding machines, etc.) but also in welding and laser applications, engraving, etc., and are specially appropriated for laboratories and research centres.

The manual units are specially adapted for easy applications in which a regulation movement is a must.



All their products show an outstanding robustness and long life without need of repairs.

The company is looking for partners interested in technical cooperation agreements for the joint development and testing of new applications, or its adaptation to specific needs. They are also open to any commercial agreements including technical assistance for the assembling, engineering and maintenance of equipments.

BACKGROUND

Since 1810, several generations of a family have grown through the working of iron as forgers, ironsmiths and machine tool manufacturers to become the leading manufacturers of linear units and coordinate tables, striving always to develop technically advanced and easy to handle products. This way of being and working has allowed this Spanish company reach more than 40 countries throughout the world, with more than 90 standard products in their portfolio, and, thanks to its modular design, are able to provide any customised solution with a very competitive price.

Innovations and advantages of the offer:

Wide range: more than 90 standard products, more than 800 applications all over the World.

Experience: more than 40 countries trust their products, installed in all industrial fields (including medicine).

Usability: Easy to learn, easy to use, reducing cost at start up.

Customised products with standard prices, thanks to their development team that can design any solution.

Lead time: short delivery time thanks to their own factory located in North Spain.

Robust: 5 years warranty in their products.

Current and Potential Domain of Application:

These systems can be used in many industrial applications, also in medicine, test stands for communication antennas and in any other application in which an accuracy positioning is needed.

Intellectual Property Rights: Copyright(s) registered.

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs

Type of partner sought: Industries, research centres, universities, engineering offices.

Specific area of activity of the partner: Machine tools; accessories for machine tools; mechanical departments; telecommunications; testing equipments; prototyping.

Task to be performed by the partner sought: Collaborate in the development of solutions adapted to the specific needs of the company / organisation.

Technologie poszukiwane

Oprogramowanie zgodne z PS - FP7 - STEP-NC i platforma sprzętowa dla wycinania drutowego EDM

PS - FP7 - STEP-NC compliant software and hardware platform for Wire Discharge Machines

(Ref: 10 HU 50R8 3HOH)

Węgierskie centrum badawcze zamierzające złożyć ofertę w ramach Badań FP7 na zaproszenie Stowarzyszeń MŚP (FP7-SME-2011-BSG) zaprasza partnerów do stworzenia oprogramowania i sprzętu zgodnego z STEP-NC dla maszyn do wycinania drutowego EDM (WDM). Cele są następujące: wysoka wydajność produkcji z kontrolerem WDM zgodnym z STEP-NC, łatwe programowanie maszyny oraz większy poziom bezpieczeństwa.

Oczekuje się na zgłoszenia stowarzyszeń MŚP z branży technologii produkcyjnych / urzędzeń do obróbki.

A Hungarian research centre intending to submit a proposal to the FP7 Research for the benefit of SME Associations call (FP7-SME-2011-BSG).

SMEs applying traditional manufacturing technologies cannot satisfy the needs of the globally distributed customers as these systems are only deployed within an enterprise. The current CAD-CAM-CNC production methods make only one direction possible, ie., from CAD to CNC and does not allow for the changes made on the shop-floor to be traced back.

To win customer confidence manufacturing SMEs need to be flexible, proactive and responsive to changes so as to be able to produce a variety of high quality and innovative products quickly at low cost. The cost of frequent programming of CNC controlled wire exchange machines for small batch customized products can be significant. The conventional programming of numerically controlled (NC) machine tools is a sequential programming language that contains only simple commands for single movement and switching operations but it does not support more complex geometries and logical structures.

In order to satisfy the requirements of dynamic customer demand, a new standard has been developed under the ISO 16649 (SPEP-NC). The STEP-NC compliant file contains the geometry and topology, the tolerances and other features of the final product in machine independent format.

The aim is to create a STEP-NC compliant software and hardware for wire discharge machines (WDM) to respond to the global challenge of the manufacturing SMEs and increase their competitiveness.

Technical Specifications / Specific technical requirements of the request:

Call title: Research for the benefit of SME Associations.

Call identifier: FP7-SME-2011-BSG.

Deadline: 08 December 2010.

Internal deadline: 30 September 2010.

Required contribution: 2,8 million €.

Percentage of EU funding: 50%-100%.

SME Associations are awaited as partners to provide technical consultation/assessment and help the dissemination and exploitation of project results.

Current and Potential Domain of Application:

Machine tools manufacturing industry.

Collaboration Type:

- Joint further development

Type of partner sought: SME Association.

Specific area of activity of the partner: Machine tools.

Task to be performed by the partner sought:

- 1) provide technical consultation/assessment.
- 2) help with dissemination and exploitation of project results.
- 3) assist field testing.

Automatyzacja produkcji sprzętu rolniczego – maszyny CNC do obracania i mielenia płodów rolnych

Automation in production of agricultural equipment - CNC turning and milling machines

(Ref: 09 HR 89GM 3ECM)

Niewielkie przedsiębiorstwo z Chorwacji specjalizujące się w produkcji sprzętu rolniczego poszukuje dostawcy technologii i partnera do dalszego rozwoju procesu produkcyjnego. Przedsiębiorstwo potrzebuje modernizacji sprzętu przetwórczego z wykorzystaniem maszyn CNC w celu poprawy jakości, dokładności i prędkości pracy sprzętu oraz produkcji części zamiennych, co musi skutkować zmodernizowaną gamą produktów.

The enterprise from Croatia with long tradition in production of agricultural equipment seeks technology upgrade to replace current manual turning and milling machines. Main problem of production is manual processing which makes the procedure slow, inaccurate and subjected to human errors. Machine processing is widely used in current production, but CNC machines are used rarely. Transfer from manual to well prepared CNC production and upgrade of product portfolio are most important components of the project.

Technical Specifications / Specific technical requirements of the request:

The CNC milling machine must have multiple cooling sources and scraping drain from workspace. Additional equipment is also necessary such as active tools that can be used for drilling and milling, tool holders, tool measuring device and all other available standard equipment.

The needed workspace of turning machine should be: minimum of 300 mm in diameter and 1000 mm in length.

The CNC milling machine, or the horizontal processing center with exchangeable tables and work space 1000x600x600mm, 3D management and a direct link to the operating computer.

The CNC milling machine will be used for processing metal casts and steel.

Current and Potential Domain of Application:

Production of agricultural equipment and spare parts using machine processing.

Collaboration Type:

- Adaptation to specific needs
- Engineering
- Technical consultancy

Type of partner sought/ Specific area of activity of the partner: manufacturer / distributor of CNC machines and enterprise from machining industry. In addition to supplying the machines, cooperation in the application of new technologies and help in increasing the technology level of production.

Task to be performed by the partner sought: implementation of new production line with technical support and consultancy, upgrade of product portfolio.

Przyjęcie produkcji nowych maszyn do produkcji pasz, podnośników i przenośników kubełkowych *Adoption of the production of new fodder-preparatory machines, pick-up adapters and bucket conveyors*

(Ref: 08 HU 50R7 0JDG)

Węgierskie przedsiębiorstwo średniej wielkości chciałoby przejąć rozwój i produkcję maszyn do produkcji pasz, podnośników i przenośników kubełkowych, aby poszerzyć obecną linię produkcyjną o produkcję innowacyjnych maszyn rolniczych. Firma posiada maszyny do cięcia, obróbki i spawania oraz system CAD. Poszukuje się partnerów z sektora przemysłowego i usługowego, pragnących zlecić opracowanie prototypów innowacyjnych maszyn wspomnianego rodzaju.

The main activity of the Hungarian company is the production of corn (wheat, corn, rye, barley, rice, oat, millet, broomcorn) technical machines.

Capacity of the production line: 18-20 tons/hour, width: 4,5 meters.

The firm would like to adopt the production of new fodder-preparatory machines, pick-up adapters and bucket conveyors.

The company's target is to modernize and expand its actual product line with new work machines. It makes possible wide-ranging service of agricultural workers with modern work machines. These modern machines make it possible for agricultural workers to offer a wide range of services.

The Hungarian enterprise would undertake the production of prototypes of new machines according to the future partner's requests.

The Hungarian company would adopt the development and production of:

- fodder-preparatory machines, which are usable for ensilation in plastic foil wale.
- pick-up adapters, which are collapsible, so they can be delivered on public road. Pick-up adapters are usable for hay.

Technical Specifications / Specific technical requirements of the request:

The Hungarian company is looking for other producers of machines who want to transfer the development of prototypes to the Hungarian partner.

Fodder-preparatory machines have to be suitable for connection of 5-9 foot foil wale.

Pick up adapters have to work as a electro hydraulic system.

Current and Potential Domain of Application:

The company is going to use the searched technology for production of agricultural work machines (corn-processing and cultivation machines, bucket conveyors).

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs
- New way to use an existing production line
- Technical consultancy
- Quality control

Type of partner sought: Industrial and service company.

Specific area of activity of the partner: Agriculture, crop production.

Task to be performed:

- transferring under licence the technological documentation of the new machines.
- transferring under licence the joint development, production, measuring information and proposals.

Technologia przedmuchiwania urządzeń w miejscach o utrudnionym dostępie***Technology for blasting in confined spaces***

(Ref: 10 ES 23C6 3I03)

Przedsiębiorstwo hiszpańskie, specjalizujące się w czyszczeniu powierzchni metalowych przez przedmuchiwanie, poszukuje nowych technologii czyszczenia obszarów, do których dostęp jest utrudniony, a których można osiągnąć tylko jedną ręką. Firma prowadzi prace w sektorze morskim, gdzie należyta obróbka ma znaczenie krytyczne, a gdzie w wielu przypadkach operatorzy mają problemy z dostępem do obszarów przedmuchiwania oraz z kontrolą prac. Przedsiębiorstwo poszukuje partnera do współpracy technicznej.

The company is specialized in cleaning, by blasting, ships and submarines. The surfaces exposed to marine environments are subject to very aggressive environmental conditions, which will cause corrosion damage. So that, inspection and maintenance of these areas are vital to identify both, preventive and corrective actions.

The blasting process and subsequent inspection and maintenance on ships, and especially in submarines, are tasks that are performed by workers in confined spaces and difficult to access, so that sometimes, the worker may only enter one arm and proceed to blind cleaning.

For this reason the company is looking for a technology or a teleoperated tool able to perform simple and intuitive tasks blasting and subsequent inspection, these spaces.

Technical Specifications / Specific technical requirements of the request:

The technology sought should allow access to places where it is only possible introduce an arm, and must allow for the incorporation of equipment for further inspection of the work done by cameras.

Current and Potential Domain of Application:

Applications submarine, nuclear applications, space applications, medical applications.

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs

Type of partner sought: The company is looking for an industry with the technology already developed.

Specific area of activity of the partner: The partner must belong to the industrial production, material and transport technologies.

Task to be performed by the partner sought: The company is looking for a technical cooperation.

Rozprężanie na zimno otworów metalowych w celu zwiększenia okresu wytrzymałości oraz nośności odnośnych komponentów konstrukcyjnych *Cold expansion of metal holes with the purpose of increasing the fatigue life and the load-carrying capacity of the corresponding structural components*

(Ref: 10 BG 0528 3HYI)

Bułgarskie przedsiębiorstwo poszukuje rozwiązań hi-tech związanych z wydłużeniem okresu wytrzymałości i zwiększeniem nośności elementów konstrukcyjnych z otworami do mocowania, jak: poszycie samolotów, szyny kolejowe, konstrukcje mostów, dźwigi, a także części dużego nacisku w podwoziach pojazdów. Poszukiwana aplikacja musi być instalacją przenośną. Przedsiębiorstwo jest zainteresowane umowami licencyjnymi i/lub zawarciem spółki na rynku bułgarskim.

The Bulgarian company is looking for partners able to offer technological solutions for enhancement of fatigue life and load-carrying capacity of construction elements with fastener holes.

Technical Specifications / Specific technical requirements of the request:

Cold expansion of fastener holes in structural components made in low-carbon constructional steel subjected to high cyclic tensile loads. The hole diameter and hole length are respectively 8 mm and 6 mm.

Collaboration Type:

- License Agreement
- Engineering
- Technical consultancy
- Quality control

Type of partner sought: A company or R&D unit able to provide the technology sought.

Specific area of activity of the partner: Engineering services and/or machine production; automotive sector.

Task to be performed by the partner sought: License agreement and/or joint venture for Bulgarian market.

Producent płyt z mikrootworami

Contract Manufacturer for Plates with Micro-Holes

(Ref: 10 US 87GA 3HRU)

Duże amerykańskie przedsiębiorstwo elektryczne poszukuje ofert od producentów kontraktowych zdolnych do wytworzenia płyt z mikrootworami o wysokiej precyzji wykonania i przy niskich kosztach produkcji. Jest ono zainteresowane produkcją w ramach kontraktu (zdolności produkcyjne, poziom inwestycji, jeżeli wymagany, inne warunki).

The company seeks a contract manufacturer to fabricate plates with micro-holes at high precision and low cost for a new product being developed. Micro-fabrication technology has been advancing in versatile fields like optical and electrical devices. In particular, the advancement is significant in the field of semiconductor, e.g. Silicon substrates.

Anticipating that there may be many competitive micro-fabrication technologies throughout the world, the company has issued this request for contract manufacturer.

Anticipated approaches include but are not necessarily limited to the following:

- Nanoimprinting technology,
- Laser beam machining,
- Lithography technology,
- Self-Organization lithography,
- Electrospark machining.

Technical Specifications / Specific technical requirements of the request:

Plate Technical Requirements

- Details of the micro-holes:

- Shape of the hole: comprised of cylindrical and rectangular well (the cylinder's cross-sectional shape can be arbitrary, but the more uniform the better).

- Cylinder size:

Diameter: 20 to 40 \pm 0.3 μ m

Hole Length: 30 to 50 \pm 1 μ m

- Rectangular well size:

Long Direction: 100 to 150 μ m

Short Direction: 40 to 80 μ m

- Hole Pitch: 85 to 140 \pm 1 μ m

- Distance between holes at left- and right-most ends: 35 to 72 mm \pm 5 μ m

- Substrate to be processed:

- Material: Si or a material whose linear expansion coefficient is from 2 to 4 ppm

- Shape: 80 mm \times 3 to 5 mm \times 200 μ m

- Surface Finishing: Should be mirror-surface on the cylinder surface (surface A)

Requirements for the Contract Manufacturer

- Can fabricate the required plates at high enough precision.

- Manufacturing capacity up to 100,000 units per year.

- Lowest cost manufacturing capability is preferred.

Further Information (Technical Details Concerning the Profile):

The respondent should start by submitting a written response briefly describing the technical approach and providing information on technology performance, background, and description of the responding team and its related experience. The response will be evaluated according to the following criteria: - Overall scientific and technical merit of the proposed approach. - Approach to proof of concept and performance. - Potential for proprietary position (i.e. novel or protectable technology). - Economic potential of the concept. - The respondent's capabilities and related experience. - Realism of the proposed plan and cost estimates. Some

items that will be especially important to include: - Overview of the proposed technology (manufacturing process, etc.) - Current performance (precisions of the devices that have been already fabricated, and their pictures) - Conditions for contract manufacturing (manufacturing capacity, level of investment if required, and other conditions) - Achievements in the past (years of fabrication experience, repeatable and reproduce-able precision at manufacturing, number of produced units in recent years). - Sample and the development cost (phase 1) - Brief overview of the organization.

Collaboration Type:

- Joint further development
- Adaptation to specific needs
- Absolutely novel process

Responses from small to large companies, academic researchers, other research institutes, consultants, entrepreneurs or inventors are welcome. The technology sought may either be ready for testing and transfer to commercial use or require further development.

The company will review the proposals, possibly ask clarifying questions or request supporting experimental data before selecting the most suitable candidates for collaboration. The company will execute non-disclosure agreements (NDA) with selected respondents, seek further information disclosure, and discuss specific development approaches. Sample prototyping and evaluation, and face to face discussions may be organized in order to evaluate in detail the proposer's capability. Specifics of the collaboration will be determined upon consultation with the parties concerned.

Note that this profile requires a convincing solution proposal. Please contact your local EEN to get the Response template and find more information on the specific process here: <http://www.us-eu-match.com/index.cfm?action=processFlow>

Innowacyjna technologia odlewnicza do projektowania i produkcji wytworów z aluminium i mosiądzu *Innovative Die-Casting Technology for Design & Manufacturing of Aluminium and Brass Products*

(Ref: 09 IL 80ER 3EG7)

Izraelskie MŚP, ukierunkowane na badania i rozwój, specjalizujące się w wysokociśnieniowym odlewnictwie dla branży motoryzacyjnej i przeciwpożarowej poszukuje innowacyjnych produktów odlewniczych na etapie rozwoju/projektowania, wymagających dodatkowych prac badawczo-rozwojowych w celu wprowadzenia ich na rynek w sposób wydajny i szybki. Poszukuje się partnerów strategicznych zainteresowanych współpracą.

An Israeli SME is specialized in manufacturing aluminium and brass (an alloy of copper and zinc) products obtained by high-pressure die casting technology. The company's main markets are the automotive industry, fire-protection field and communication applications.

The company provides engineering and manufacturing solutions for cast products from design stage up to the delivery of the finished parts/products. The company has state-of-the-art die casting machines with a locking force from 400 up to 1400 tons, die tooling shop, horizontal CNC milling machines and CNC turning machines. ISO/TS qualified quality assurance system.

The company's engineers are highly R&D oriented in die-cast products and the design of die-casting dies.

The company's engineers have completed several research projects in recent years. The research subjects include: casting special aluminium alloys, improving the casting process, applying vacuum technique in die casting process, casting hybrid aluminium-magnesium products and a special "cold welding" process for cast products.

Technical Specifications / Specific technical requirements of the request:

The subjects for further cooperation in R&D include: casting special aluminium alloys, improving the casting process, applying vacuum technique in die casting process, casting hybrid aluminium-magnesium products and a special "cold welding" process for cast products

Current and Potential Domain of Application:

The main intended, but not limited by this, applications are automotive industry, fire-protection field and communication applications.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Financial Resources
- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process

Type of partner sought: industry, academy, research organization.

Specific area of activity of the partner: R&D activity in the field of metals / alloys in high-pressure casting processes, manufacture.

Tasks to be performed: offering cast technology, products required for develop and manufacture.

Technologia cięcia produktów z poliestru wzmocnionego szkłem (GRP) przy minimalnym zapyleniu ***Cutting technology for glass reinforced polyester (GRP) products with minimal dust generation***

(Ref: 10 GB 46P5 3HT5)

Przedsiębiorstwo ze Szkocji specjalizujące się w produkcji wytworów termoutwardzalnych z poliestru GRP do zastosowań w branży budowlanej poszukuje partnera mogącego dostarczyć technologię cięcia minimalizującą lub eliminującą wytwarzanie pyłu podczas procesu cięcia, którą można bezpiecznie zintegrować z obecną linią produkcyjną. Przedsiębiorstwo poszukuje technologii cięcia odpowiedniej lub możliwej do zaadaptowania do zastosowania w tym procesie.

A Scottish company which specialises in the manufacture of glass reinforced polyester (GRP) thermo-set products for use in the building industry is looking for an alternative form of cutting technology which can be integrated into their existing production line. At present the company uses rotating diamond saw blades which have the disadvantage of producing dust during the process. They are now looking for an alternative solution which minimises or avoids the generation of this dust.

Technical Specifications / Specific technical requirements of the request:

The solution would be for use in an existing production line where it would be used for longitudinal cutting. The company produces many different profiles so the cutting arrangement would have to be easily repositioned to suit each profile. It would require to be completely safe for use in cutting multipositional configurations and would have to be capable of cutting through GRP up to 2mm thick at a rate of 10m/min.

Current and Potential Domain of Application:

Building and Construction.

Collaboration Type:

- Adaptation to specific needs
- Technical consultancy

Type of partner sought: Industrial partner.

Specific area of activity of the partner: Supply of cutting technology which is suitable or can be adapted for use in this process.

Task to be performed by the partner sought: Commercial agreement with technical assistance.

Aparat to mechanicznego gięcia mokrego lub żywego drewna

Mechanical stress grading of wet or live timber apparatus

(Ref: 10 FR 33J8 3HJH)

Tartak z Francji poszukuje urządzenia do gięcia mechanicznego mokrego lub żywego drewna. Do tej pory gięcie jest wykonywane wzrokowo (przez operatora).

Zgodnie z nowymi normami europejskimi dotyczącymi mechanicznego gięcia drewna strukturalnego, tartak ten chce wprowadzić urządzenie do gięcia mechanicznego mokrego lub żywego drewna, które byłoby odpowiednie do produkcji w małych i średnich seriach. Spółka szuka partnerów zainteresowanych umową handlową wraz z wsparciem technicznym.

A French sawmill is looking for a device for a mechanical stress grading of wet or live timber. So far, timber grading is made visually (to the naked eye by an operator).

According to new European standards on mechanical stress grading of structural timber, this sawmill wishes to implement a device for a mechanical stress grading of wet or live timber, which would be suitable with a production in short and medium quantities (between of 15 and 30 pieces of wood per minute).

Almost all available equipments on the market are intended for big sawmills only. The French company wishes to find a suitable equipment with a recognition system (section, thickness, length, mechanical stress measures). This equipment should be integrated to the existing production lines. So the company is looking for a commercial agreement with technical assistance.

Technical Specifications / Specific technical requirements of the request:

Mechanical stress grading apparatus suitable :

- A production rate ranging between 15 and 30 pieces of wood per minute,
- Transversal timber run.

Integration to the existing production lines.

Current and Potential Domain of Application:

Structural wood boards for construction

Collaboration Type:

- Adaptation to specific needs
- Technical consultancy

Type of partner sought: Manufacturer of single-purpose machines for small sawmills.

Specific area of activity of the partner: single-purpose machines, mechanical.

Task to be performed by the partner sought: Manufacture the mechanical stress-grading timber device.

Produkcja głęboko tłoczonych puszek w dużych ilościach *High Volume Deep-Draw Can Fabrication*

(Ref: 10 BE 0213 3HJP)

Wielonarodowa firma z siedzibą w Brukseli, działająca w sektorze towarów konsumpcyjnych, pragnie znaleźć dostawców i oferentów technologii do zwiększenia wydajności produkcji głęboko tłoczonych, zamkniętych cylindrów metalowych (puszek). Preferuje się partnerów o dużej wiedzy, z procesami produkcji i zdolnością do prowadzenia testów/symulacji. W przypadku konieczności dalszych badań, preferowane oferty będą zawierać okres 0-1 roku na badania wraz z znaczącymi postęпами w okresach 3-miesięcznych. Poszukuje się różnego rodzaju współpracy.

This Brussels based company looks for a component for a high-volume consumer product. The component is a closed-end cylinder made entirely of nickel-plated steel (NPS, commonly referred to as a “can”). It has a diameter of approximately 1.3 cm and an aspect ratio of about 4:1.

The current manufacturing process for this component employs a variety of tools and equipment to enable the high speed deep-draw fabrication of a reliable product. It is made by a variety of manufacturers on transfer presses with output rates of more than 200 parts per minute. These presses are fed with drawn cups that are produced on multiple-out presses that optimize material savings.

It is desired to significantly improve process throughput and increase overall efficiency by evaluation and implementation of alternative multiple-out, high speed/low speed deep-draw technologies.

The company is seeking potential partners with the technology and capability to develop manufacturing solutions to enable the fabrication of deep-drawn NPS cans at rates that are well in excess of 300 ppm (parts per minute), preferably more than 1000 ppm.

Preferred partners will offer one or more of the following:

- Advanced equipment technologies to enable the above,
- Alternate tooling techniques to enable the above,
- Breakthroughs in deep-draw can forming to save material and minimize scrap.

Technical Specifications / Specific technical requirements of the request:

This is a request for potential partners to identify themselves. No formal proposal is required at this time, but interested parties should provide non-confidential literature, data or other materials to demonstrate their general capabilities and ability to fabricate deep-draw closed-end cylinders at rates of at least 1000 parts per minute. Dimensional tolerance is to be defined, but an approximate target is more or less 0.013 cm. Surface finish is arbitrary at this time.

All solutions should be leading-edge technologies and enablers. Cost targets are to be determined, but technologies must be cost competitive with the leading alternatives and/or today's state of the art.

Favored status will be given to responses that include the clear articulation of what is new or novel about the proposed technology compared to the existing art.

The response is limited to no more than 3 pages. It should briefly describe the technical approach, provide information on technology performance, background, and description of the responding team members (if applicable) and their related experience.

The response will be evaluated using the following criteria:

- Overall technical merit of the proposed approach,
- Approach to proof of concept or performance,
- Potential for proprietary position (i.e. is the technology novel or patentable),
- Economic potential,

- Capabilities and related experience of provider,
- Realism of the proposed plan and budget.

If the response is of interest to the Brussels-based multinational, proposers will be contacted for next steps, which may include a request for a more detailed proposal. In some cases, the company will provide further information under NDA (Non-Disclosure Agreement). Expect an initial response in 2-3 weeks.

By submitting a response the proposer represents that the response does not and will not be deemed to contain any confidential information of any kind whatsoever.

By submitting a response, the proposer acknowledges that the company reserves the sole and absolute right and discretion to select for award, all, some, or none of the responses received for this announcement. The company may also only choose to select specific tasks within a proposal for award.

Collaboration Type:

- License Agreement
- Joint further development
- Testing of new applications
- Adaptation to specific Leeds
- Engineering

Type of partner sought: SME or industry.

Specific area of activity of the partner: Any industrial partner with technology and capability to develop manufacturing solutions to enable the fabrication of deep-drawn NPS cans.

Task to be performed by the partner sought: The requested partner should provide the company with the requested technology or device, or alternatively adapt an existing tool to the specific needs of the company.

Elastyczna obróbka rolek z materiałów ceramicznych (azotek krzemu) z szybkim usuwaniem materiału
Flexible machining of rollers made from ceramic material (silicon nitride) with high material removal rate

(Ref: 10 AT 0105 3HJX)

Austriackie przedsiębiorstwo poszukuje rozwiązania do obróbki cylindrów ceramicznych / trzpieni do rolek w łożyskach tłocznych. Rozwiązanie to musi umożliwiać bardzo wydajne (szybkie tempo usuwania materiału) i elastyczne (małe rozmiary partii) dopasowanie, aby obrabiane części wymagały jedynie szlifowania lub polerowania dla uzyskania pożądanego kształtu. Preferowane będą technologie obracania z wykorzystaniem lasera lub podobne. Przedsiębiorstwo poszukuje partnerów do kontraktów na obróbkę lub dostawców rozwiązań do obróbki.

The Austrian company has long-lasting experience in developing, manufacturing and retailing of rolling bearings.

For special applications rolling bearings with rollers made from ceramic material are produced. The ceramic material used needs to be very hard and ductile at the same time. Materials such as silicon nitride (Si₃N₄) have proven best suited for such applications.

These ceramic materials are available in form of cylindrical blanks or rods with certain dimensions. In order to fabricate rollers with the required diameters and tolerances the blanks or rods are cut, grinded and polished at the moment. The grinding process is very time consuming especially when much material has to be removed. This is the case when suitable rods are out of stock. In addition delivery times of the ceramic rods are rather high.

For a faster and more flexible machining of such ceramic rollers the company is now looking for partners offering suitable technologies (machines) and/or contract machining.

Technical Specifications / Specific technical requirements of the request:

- Very fast and flexible machining of rods made from ceramic material (such as Si₃N₄) to rollers.

- Near-net shaping: machining of the raw material shall be performed so that the machined parts only need to be polished afterwards to obtain the net shape.
- Turning technologies with laser-assistance or ultrasonic-assistance are preferred.
- Net shapes: cylindrical and spherical rollers in the diameter range of 10mm to 50mm (length for cylindrical rollers can be up to 3 times the diameter).
- Required tolerances before the final polishing step: e.g. diameter tolerance $<25\mu\text{m}$, roundness $<3\mu\text{m}$.
- The technology should enable fast and flexible prototyping and production of small lots of typically 100 to 1000 rollers.
- Minimum requirement: fully working prototype.

Current and Potential Domain of Application:

The ceramic rollers are partly used in rolling element bearings.

Collaboration Type:

- License Agreement
- Testing of new applications
- Adaptation to specific needs
- New way to use an existing production line
- Assembly
- Technical consultancy
- Maintenance

Type of partner sought: Industry, SME.

Specific area of activity of the partner:

- Developer and/or manufacturer of technologies for very efficient and flexible machining of ceramic (silicon nitride) rollers.
- Companies offering such machining services.
- Partners with experience/know how in laser- or ultrasonic-assisted turning or similar are preferred.

Task to be performed by the partner sought:

- The partner should be able to provide a suitable machining service or machine including assembly, technical consultancy and maintenance.
- Or the partner should be able to adapt an existing solution to meet the required specifications.

Automatyczna prasa progresywna do instalacji dla hodowli zwierząt: klatki dla królików

Automatic Progressive Press for Cattle Farming Installations: Rabbit Boxes

(Ref: 09 ES 23C6 3DRF)

Hiszpańskie przedsiębiorstwo produkujące klatki dla królików potrzebuje maszyny do gięcia w celu modernizacji produkcji. Przedsiębiorstwo poszukuje automatycznej lub progresywnej maszyny do gięcia w celu zmniejszenia kosztów robocizny, poprawy szybkości procesu i minimalizacji awarii. Spółka szuka jest zainteresowana umową handlową z wsparciem technicznym.

Spanish company that manufactures equipment and accessories for cattle farms and pets installations. In order to make their rabbit boxes, the firm needs a bending machine to upgrade production.

The company currently uses several presses and people to change pieces.

The firm needs one single press to get the ideal shape without human intervention.

Steel plates are used to make the rabbit boxes.

The firm needs a bending machine to manufacture the boxes in one single stage.

The bending machine has to be automatic and progressive.

The goal is reduce human labour, improve process speed and minimize failures.

The company is looking for a bending machine supplier.

Technical Specifications / Specific technical requirements of the request:

Steel Plate

100 mm X 100 mm

150 mm X 100 mm

Current and Potential Domain of Application:

Cattle farming Installations: Rabbit boxes.

Collaboration Type:

- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: Machinery supplier.

Specific area of activity of the partner: Metal sector.

Task to be performed: Improve efficiency.They are interested in a commercial agreement with technical assistance.

Urządzenie do cięcia o zminimalizowanych wibracjach *Cutting tool with minimized vibrations*

(Ref: 10 ES 26E5 3H0R)

Przedsiębiorstwo baskijskie (Hiszpania) opracowało urządzenie do cięcia wyposażone w system minimalizacji wibracji i związanych z nimi szkód dla użytkownika. Spółka jest zainteresowana umową licencyjną i umową handlową z wsparciem technicznym.

Manual drilling tools can be harmful due to the strong vibration produced; for this reason there is a general worry about this aspect and the willingness to reduce it.

During the drilling operation, the wrist is submitted to continuous vibrations which could result in a general damage for the user. It is important to try to reduce vibrations or reduce the transmission of the vibration to the operator.

Among the present solutions to this problem there are shock absorbing handle, which reduce vibrations transmission from the drill to the user. Another solution can be a padded glove for holding the drilling tool in order to reduce the vibrations transmitted to the user.

Moreover, there are systems to reduce vibrations transmission which could be mounted to portable drills. These systems are based on shock

absorbing elements. There have been developed solutions for bits based on geometries or surface thermal treatments which could reduce the noise and absorb the vibrations produced during the cutting.

Technical Specifications / Specific technical requirements of the request:

The present invention consists in a rotary cutting tool, for example an iron bit, including a plastic or rubber gasket. The gasket function as a shock absorber of the vibrations transmitted to the drill and then to the user. Moreover it makes it easier mounting and fixing the bit to the drill. The system works the same way as a standard tool and the drilling is carried out with the same tool. The only difference is that this way vibrations are absorbed by the rubber gasket, reducing this way the transmission to the user and related safety risks for the user.

Current and Potential Domain of Application:

Machine tools.

Collaboration Type:

- License Agreement
- Adaptation to specific needs
- Technical consultancy
- Maintenance

Type of partner sought: company.

Specific area of activity of the partner: machine tools.

Task to be performed by the partner sought: define details for an agreement.

Nowoczesna technologia produkcji dużych maszyn i części do maszyn

Novel Technology for Manufacturing Large Machinery and Machine Parts

(Ref: 10 TR 99PB 3GTH)

Przedsiębiorstwo tureckie poszukuje nowoczesnej technologii produkcji dużych maszyn i komponentów do przemysłu obronnego, tekstylnego, transportowego i hydroelektrycznego. Spółka szuka partnerów zainteresowanych współpracą techniczną, umową produkcyjną lub umową spółki obejmującą produkcję, albo z firmami badawczo-rozwojowymi. W preferowanej opcji technologia ta powinna już być dostępna na rynku.

The company's expertise area is to manufacture Large Machinery and Machine Parts at high precision. The company is able to manufacture complete machines and turn-key manufacturing lines according to projects. They work as contract manufacturers for Industries such as:

- Defense Industry,
- Steel Mills & Plants,
- Nuclear & Steam Power Plants,
- Electric Motor & Generator Housings & Bearings,
- Hydro-electric Turbines,
- Petro-Chemical Pumps & Valves,
- Turbine & Generator Parts,
- Plastic Extrusion Machines,
- Locomotive & Railway Industry,
- Water & Waste Water Treatment Plants,
- Textile Machinery,
- Aluminium Slitting Lines.

The company by means of technical cooperation and joint venture agreements wants to develop its abilities and production processes for using its premises and capacity for different projects. The company is also interested in manufacturing agreements.

Technical Specifications / Specific technical requirements of the request:

The company is open to to work with companies or R&D institutions, which have novel technologies for manufacturing large machines and components and provide the company new ways to use its existing lines.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Joint further development
- New way to use an existing production line
- Absolutely novel process

Type of partner sought: Industry, research institute.

Specific area of activity of the partner: Manufacturers of machinery, R&D companies.

Task to be performed by the partner sought: Make a joint venture with the company or a manufacturing agreement, which would include transfer of know-how and expertise to the company.

Automatyzacja procesu produkcyjnego papierowych opakowań do DVD/CD

Automation of manufacturing process of paper-based DVD/CD-holder

(Ref: 10 GB 4407 3GSH)

Brytyjskie przedsiębiorstwo z siedzibą w Londynie opracowało nowoczesne, opatentowane opakowanie do DVD/CD, o dużym potencjale ekologicznym i wartości nowoczesnego rozwiązania. Produkt ten obecnie jest wytwarzany ręcznie, lecz firma pragnie zautomatyzować ten proces. Poszukuje się partnerów przemysłowych w sektorze opakowaniowym o doświadczeniu w automatyzacji i stosowaniu kartonu w celu wspólnego opracowania w pełni zautomatyzowanego procesu produkcyjnego (w tym potencjalnej adaptacji produktu).

A London-based company have developed a paper-based holder for CDs and DVDs. As the product is made entirely from recycled cardboard or paper, its environmental credential are excellent. In addition, the design of the disc-holder provides a novelty value, allowing the holder to be sold in high-end outlets, as well as mass retail. An early version of the product is on the market, in collaboration with a Belgian manufacturer.

The company is looking partners in the packaging industry, preferably experienced in the use of cardboard, to jointly develop a fully automated manufacturing process for the product.

Technical Specifications / Specific technical requirements of the request:

Currently, the disc-holder is manufactured by a manual process. The company is interested to fully automate their production processes.

They are looking for a partner in the packaging industry with expertise in automation and the use of cardboard as a raw material to jointly develop an automated manufacturing process; adaptation of the product to allow automated manufacturing will also be considered.

Current and Potential Domain of Application:

The disc-holder can be used for both CDs and DVDs and can be sold in high-end markets as well as mass retail. Due to its novelty value and the environmental credentials, the holder is expected to appeal to a wide range of consumers

Collaboration Type:

- Joint Venture Agreement
- Joint further development
- Testing of new applications
- Adaptation to specific needs

Type of partner sought: Packaging industry, with expertise in automation and the use of cardboard as a raw material.

Task to be performed by the partner sought: Joint development of an automated manufacturing process; adaptation of the product to allow automated manufacturing will also be considered.

Silnik na sprężone powietrze do małych pojazdów *Compressed Air Engine for small vehicles*

(Ref: 10 BE 002A 3GU3)

Wspólnotowe Centrum Badawcze Komisji Europejskiej szuka partnera zdolnego do dostarczenia innowacyjnego silnika na sprężone powietrze do roweru dwukołowego lub skutera zgodnie z określoną specyfikacją. Silnik powinien być zasilany sprężonym powietrzem i powinien być bardzo wydajny (4-6 x większa wydajność niż silniki konwencjonalne) przez minimalizację wewnętrznego zużycia i tarcia. Pod uwagę brane będą wyłącznie rozwiązania na etapie przynajmniej prototypu.

Under a project of the Joint Research Centre, our team has replaced a standard combustion engine in a scooter with a standard compressed air engine whose characteristics are outlined below. Testing of the new scooter has proved a very limited range of operation. Calculations for the operational range were based on a 40 litres tank which was filled with 300 bar compressed air.

We are seeking for a partner/provider/manufacturer/vendor of an innovative compressed air engine, which can be used for a two- or four-wheel small vehicle, like a scooter or golf-cart under the specifications outlined below.

We would be interested in engaging in a collaborative agreement in order to assess, test and use such an engine for a proof of concept, in order to construct a final product.

Technical Specifications / Specific technical requirements of the request:

The characteristics of a standard commercially available compressed air engine are as follows:

Power: 0.1 - 3 kW,

Pressure: 1.4 - 7 bar,

Speed: 300 - 3000 rpm (Revolutions Per Minute),

Consumption: 15 - 230 m³/h = 15.000 - 230.000 l/h.

What we need should correspond to the following specifications:

Power: 0.1 - 3 kW,

Pressure: 1.4 - 7 bar,

Speed: 300 - 3000 rpm,

Consumption: 3 - 50 m³/h = 3.000 - 50.000 l/h.

Weight: < 10 kg; 20-30 cm diameter.

Only solutions at least at prototype stage will be taken into account.

Current and Potential Domain of Application:

This engine is meant to replace the standard combustion engines of small vehicles such as scooters or golf carts or even boats. Therefore the potential domain of application would be the automotive, transport and shipping industries.

Collaboration Type:

- Joint further development
- Testing of new applications
- Adaptation to specific needs
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process
- Engineering

Type of partner sought: Industrial designer/ manufacturer/ developer.

Specific area of activity of the partner: Automotive, Pneumatics, Various Engines Manufacturing.

Task to be performed by the partner sought: Design, manufacture, engineer and test the compressed air engine under our support (including technical support) and guidance.

Producent przemysłowy, który zbuduje maszynę do produkcji helikalnych ekranów do zastosowań w branży papierniczej

Industrial manufacturer to build a production machine for helical screens used in the paper industry

(Ref: 09 DE 1271 3F6S)

Niewielkie przedsiębiorstwo niemieckie opracowało i opatentowało proces oparty o nowoczesną technologię umożliwiającą wydajniejszą produkcję ekranów helikalnych stosowanych przy produkcji papieru. Poszukuje się producenta urządzenia, najlepiej w branży inżynierii mechanicznej, który zbuduje i dalej rozwinie obecny prototyp. Firma jest otwarta na wszelkie rodzaje współpracy.

Helical screens (or spiral sieves) are used in the paper industry for the filtration of fibres out of the pulp slurry in the first stage of paper production.

Since 1980s there have been 3 different machines used for helical screens production: the first one is used for the winding of plastic wires into individual spirals; in the next step they have to be stored before they are joined (left and right spirals) with the second machine. At the end, the third machine, so-called stuffing table, connects the spirals with fixing wires. This process is resources and time-consuming.

A German company developed an innovative technology process enabling the production of helical screens with only one machine. According to this technology the individual spirals are being winded (with winding heads) and inserted into each other in an overlapping way on a working platform. On this working platform spirals are being stored before they are joined and stuffed together to the appropriate dimension. The single step are being operated by means of moveable joining devices and controlled with a software programme.

The production process of 144sqm of helical screen (spiral mesh) with the traditional technology requires 100 working hours of minimum 3 machines, which makes 33.3sqm/24h. The new processing method takes 12 working hours with the efficiency of 281 sqm/24h (estimated performance of machine with 16 windingheads simultaneously). Additionally, energy consumption is reduced by up to 50% and waste materials production decreases around 30%. More flexibility is also given.

The company is seeking a machine manufacturer to build a spiral assembling machine according to the specifications given. The partner should have experience in the precision and sensor technology and in electronic engineering. A prototype/testing device is available.

Technical Specifications / Specific technical requirements of the request:

- Spiral assembling machine.
- Monofile (individual spirals): 0,4 - 1 mm (diameter).
- r.p.m. max. 5000.
- Spiral mesh: min. 6 - max. 12,5 m (width).

Current and Potential Domain of Application:

Paper industry.

Collaboration Type:

- Absolutely novel process

Type of partner sought: Industry partner.

Specific area of activity of the partner: The partner sought is a mechanical engineering company experienced in electronic/precision engineering and sensor technology, ideally with background in paper production machines.

Task to be performed: The partner should be able to build a machine for the production of helical screens (spiral sieves) according to specification given. There is also a possibility of purchasing the patent.

Technologia do masowej produkcji nowego typu sprężarki śrubowej

Technology for bulk production of new type of screw compressor

(Ref: 10 CZ 0746 3G9W)

Czeskie MŚP, światowy lider w produkcji sprężarek, poszukuje technologii/linii produkcyjnej w celu wprowadzenia innowacji w procesie produkcyjnym sprężarek śrubowych. Technologia taka musi już być w pełni opracowana. Preferowana forma współpracy to umowa handlowa wraz z wsparciem technicznym.

The Czech company, leading manufacturer of rotary screw compressors, has been on the market for more than 50 years. The company manufactures stationary screw compressors, portable screw compressors, locomotive braking system screw compressors, pistons compressors and special screw compressors according to the customer requests.

The company is looking for new innovative technology to be used for the production of the state of the art screw compressors which are a result of their own research activity.

The technology-production line should consist of a CNC lathe and two CNC cutting centres - the first one for stator and the second one for rotor production. The potential partner should be able to supply the complete production line. The company is interested in a commercial agreement with technical assistance.

Technical Specifications / Specific technical requirements of the request:

CNC lathe:

The machine will be used for small batch production (50 – 300 pieces) of parts from cast iron, aluminium, copper or free-cutting steel. The machine should be able to work also as a centre-lathe. The machine should be equipped with the feeding machine and tool turret enabling the use of rotating tools. The chip conveyor must be installed.

Maximum cutting diameter of the workpiece: 300mm,

Maximum bar diameter: 50 mm,

Cutting diameter of the workpiece (without the tailstock): 530 mm,

Workpiece weight: 75 kg,

Maximum rotations: 6000 RPM,
Torque moment of the headstock spindle: 500 Nm,
Pressure of tool cooling (internal): min. 15 bar,
Automatically adjustable tailstock.

Tool turret:

Total number of tools in turret: 12,
Number of rotating (drive) tools: 4.

Feeding machine:

Bar diameter: 10 to 50 mm,
Maximum bar length: 1000 mm,

CNC cutting centre for production of rotors of new screw compressors:

The requested technology is a single-purpose machine that will be used for production of rotors – special parts of screw compressors. The machine should be compatible with special tools (cutters), which are already used by the company. The use of electronic handwheel for easy setting and adjustment is requested. The machine should be equipped with a chip conveyor.

CNC horizontal cutting centre for production of stators:

The four or five-axe (X,Y,Z, turning table, birotative electrohead) cutting centre with 2 tables enabling continuous workpiece exchange. This machine will be used for small batch production of parts of stators made from aluminium alloys. The use of electronic handwheel for easy setting and adjustment is requested. The machine should be equipped with a chip conveyor.

Requested technical parameters:

Spindle: HSK-A 100 or ISO 50,
Spindle rotation: 10.000 RPM,
Amount of tools in a charger: 40.

Collaboration Type:

- Adaptation to specific needs
- Assembly
- Technical consultancy

Type of partner sought: Industry.

Specific area of activity of the partner: Production or distribution of machine tools.

Task to be performed by the partner sought: Commercial cooperation with technical assistance containing the delivery of required technology, the adaptation to the specific needs of the user and staff training.

Aparat lub metodologia dla systemów sterowania procesem lub sprzętem

An apparatus or method for plant process and equipment control systems

(Ref: 10 TR 98OA 3GHY)

Przedsiębiorstwo tureckie z siedzibą w Ankarze, specjalizujące się w rozwiązaniach przemysłowych dla wszelkiego rodzaju systemów automatyki, poszukuje partnera technologicznego do rozwoju systemów firmy. Przedsiębiorstwo potrzebuje technologii do oprogramowania systemów sterowania, innowacyjnych komponentów i partnerów do rozwiązań zwłaszcza w zakresie systemów sterowania procesem i sprzętem. Firma planuje uzyskanie licencji lub współpracę na zasadzie produkcyjnej.

Modern process control systems are the systems that use computers to realize automatic control of production processes. A process control system consists of a computer and industrial production equipment. In each process control system one or several computers may be needed depending on the characteristics of the process and control strategy. Input and output channels are important for communication between the computer and production equipment. In some processes various parameters are desired to be controlled.

When human operators are involved in controlling the parameters, they may be subject to overcorrection and overreaction to normal process variability. In order to ensure consistency in product quality, automatic control can be configured on the process with a computerized system.

Thinking the importance of the automation units used, they are seeking partners in Europe which have an innovative industrial automation processes and want to call on the expertise in automation. They want to contact with manufacturers of industrial automation equipments and also want to work with companies to establish technical and commercial partnerships.

The company is looking for partners who will collaborate in the development of control software. The company wishes to enter the export market. Besides export activities, the company may sign agreements on

transfer of skills in automation units and panels by production licenses with European and other partners.

Technical Specifications / Specific technical requirements of the request:

- High Efficient Systems,
- Automated power and safety protection.

Current and Potential Domain of Application:

Industrial Manufacturing,
Process Plant Engineering,
Electronic Measurements Systems,
Process Control and Logistics.

Collaboration Type:

- Joint Venture Agreement
- License Agreement
- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process
- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: The company needs technologies for plant process control systems. The company plans to get licenses or cooperate on manufacturing basis.

Specific area of activity of the partner: Research, development / manufacturer for plant process control systems.

Task to be performed: Development of the plant control systems software and adaptation of innovative components to the control systems.

Ultraprecyzyjna produkcja zaawansowanych komponentów optycznych

Ultraprecisious manufacturing of high-tech optical components

(Ref: 10 HU 50R7 3GK3)

Węgierskie przedsiębiorstwo średniej wielkości podejmie się produkcji części lusterek metalowych, soczewek i pryzmatów. Firma pragnie się skupić na produkcji komponentów specjalnych. Przedsiębiorstwo posiada dobrze wyposażoną fabrykę z ławą obrotową do materiałów twardych, laboratorium pomiarowe oraz wysoko wykwalifikowaną załogę. Partnerami mogą być firmy technologiczne, uniwersytety i instytucje badawczo-rozwojowe poprzez produkcję próbną i seryjną. Poszukiwane części muszą być w trakcie rozwoju, gotowe do demonstracji lub gotowe do wprowadzenia na rynek.

The company is dealing with manufacturing products of stainless steel. It can be achieved by highway, it has favourable logistic conditions.

The company can sliver components of special material-quality with articulated surface. The Hungarian company needs a knowledge transfer on cutting of these special materials for being able to produce the components precisely. The results could be introduced into the industrial application.

The company wants to improve its knowledge concerning surface treatment of components of special materials and edges. It is important to be able to satisfy different quality requirements at the same time. The company still has the appropriate infrastructure with an air-conditioned, vibration-free and dust-free factory and measure laboratory.

The ultraprecisious technology is suited for companies producing optical products (eg. contact lenses), prostheses producers, parts producers, machine tool producers, vehicle component producers, bearing producers. Attempt parts can also be produced for universities and R+D institutions.

International relations in this field can be made thanks to the technology. The Hungarian company can get into the frontline of this research field and European Union projects as well.

Technical Specifications / Specific technical requirements of the request:

Maximum allowable size of the produced parts:

- max. workpiece diameter for chucking applications: ? 310 mm;

- max. work piece diameter for chucking between centers: 100 mm x 350 mm.

Characteristics of ultraprecisious processing:

- Increased productivity: reduction of time of cutting,
- Complex geometries: can be produced independently of series size,
- Optional outline: flat, cone, spherical and aspherical optical surfaces,
- Extreme great accuracy: 0,1 μm , defects in shape: ? 0,5 μm ,
- Control split: 0,01 μm (10 nanometer),
- Cost effectiveness: reduction of the duration of last processing,
- Big hardness: it can make 45-70 HRC pieces within IT 3-5 tolerance fields,
- Wide material-range: hardened steel, hard metal, special materials (ultra fine granulated, Cr-Ni-Ti super-alloys).

The hydrostatic bearings and cables insure non-vibration movement for skates and head-spindles of machining equipment, hereby the machine is qualified for making of optical quality surfaces.

Collaboration Type:

- Joint Venture Agreement
- Testing of new applications
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Technical consultancy

Type of partner sought: industrial entity, university, R+D institution.

The specific area of activity of the partner: precision engineering, optical industry, automotive industry and bearing industry.

The tasks to be performed of the partner sought:

- Providing complex, delimited surfaces that can be cut with ultraprecisious method.
- Selection of material.
- Determination of geometry of tools.
- Production transfer.

Technologia obróbki metali do wyjątkowych zastosowań materiałowych, jak automatyka, projekt obróbki plastycznej i pomocniczy sprzęt hydrauliczny
Metal Working Technology for Unique Material Applications Such as Automation, Roll Form Design and Auxiliary Hydraulic Equipment

(Ref: 09 TR 98OA 3G1O)

Tureckie MŚP specjalizujące się w rozwiązaniach przemysłowych dla pras hydraulicznych szuka partnerów do stworzenia technologii procesu obróbki metali do wyjątkowych zastosowań materiałowych, jak automatyka, projekt obróbki plastycznej i pomocniczy sprzęt hydrauliczny. Firma ta gotowa jest wykupić licencję na opracowaną technologię lub współpracować nad badaniami i rozwojem w celu weryfikacji/modernizacji obecnych technologii. Firma ta jest też otwarta na współpracę na zasadzie produkcyjnej/kommercyjnej.

Metalworking is the process of working with metals to create individual parts, assemblies, or large scale structures. Metalworking generally is divided into the following categories, forming, cutting, and, joining. Each of these categories contains various processes. These forming processes modify metal or workpiece by deforming the object, that is, without removing any material. Forming is done with heat and pressure, or with mechanical force, or both. The company has manufacturing program that covers hydraulic press brakes, columns, single and double action hydraulic presses, C type hydraulic presses. Presses are extensively used by customers acting in different manufacturing branches mainly automotive industry, metal industry and home appliances. The company designs and manufactures special purpose presses, machines and complete production line tailored for unique material applications. On this basis the company is planning to adapt new features to their systems by means of automation, roll form design and auxiliary hydraulic equipments with this technology transfer.

Technical Specifications / Specific technical requirements of the request:

Complying with EU standards,
Easy in maintenance,
Provide high surface quality of the processed parts,
Increase efficiency of the existing production line,
Easy to install in the existing facilities of the company.

Current and Potential Domain of Application:

Machining.
Metal working technology.
Automation.
Roll form design.
Hydraulic equipments.

Collaboration Type:

- Joint Venture Agreement
- Financial Resources
- Joint further development
- Testing of new applications
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)
- Absolutely novel process
- Assembly
- Engineering
- Technical consultancy
- Quality control
- Maintenance

Type of partner sought: Industrial equipment and machinery.

Specific area of activity of the partner: Machine tools, other metal working equipment or other industrial equipment and machinery.

Task to be performed: Development of the existing production line according to the innovative technology offered by the partner (with technical assistance and consultancy).

Cięcie membran opon metodą tlenową pod wysokim ciśnieniem

High-Pressure Air Cutting of Membranes From Tyres

(Ref: 10 DK 20B7 3GEK)

Duży duński producent zabawek wykorzystuje obecnie szczególne narzędzie do wykrawania w celu cięcia membran opon różnych rozmiarów. Jednakże, rozwiązanie to jest kosztowne i niezbyt elastyczne. Firma jest zainteresowana współpracą z przedsiębiorstwem mogącym zaoferować metodę cięcia w oparciu o powietrze pod wysokim ciśnieniem.

The company has tested other methods like laser cutting, water cutting and ultrasound cutting. However, none of these solutions have proven to be adequate and satisfactory. The company wants to test a cutting method based on high-pressure air.

Technical Specifications / Specific technical requirements of the request:

The method is to be able to cut SEBS (styrene-ethylene-butylene-styrene) material with a thickness of 2 mm and a shore hardness of 40–60 A.

Demanded tolerance conc. a hole of 30 mm is 0.3 mm +/-.

If possible, the concept is to be mounted on 4-5 casting machines.

The method is to be able to perform avoiding dust problems.

Collaboration Type:

- Testing of new applications
- Adaptation to specific needs
- Engineering
- Technical consultancy
- Quality control

Type of partner sought: Industry.

Specific area of activity of the partner: Cutting of SEBS material.

Task to be performed by the partner sought: Supply/development of high-pressure air cutting method for cutting membranes from tyres.

Miniaturowe łożyska obrotowe dla kriołodziarek Stirling *Miniature rotary bearings for Stirling cryocoolers*

(Ref: 09 SI 68CP 3E1F)

Słoweńskie przedsiębiorstwo, producent kriołodziarek Stirling, poszukuje firmy zdolnej dostarczać miniaturowe łożyska obrotowe i zapewnić pomoc techniczną w zastosowaniu łożysk. Produkty muszą być gotowe do wprowadzenia na rynek.

Slovene company, an established producer of Joule-Thompson cryocoolers, is developing and preparing for production of split Stirling cryocoolers. The cooler should have cooling power of 500 mW and lifetime in operation at least 10000 hours (MTTFF).

The company is searching for supplier of miniature rotary bearings; with special application of bearings. They are used in helium atmosphere and should be used without any lubrication. The supplier should also provide technical assistance on application of the most appropriate bearings (which miniature bearings would be appropriate for the company's application) and should also be responsible for production of bearings. Partner should have experience with special miniature bearings in other high demanding bearings applications – high vacuum, large temperature changes (Temperature of bearings in application is between -40°C and +120°C). They should have knowledge about ceramic and hybrid bearings and be capable of producing them.

Technical Specifications / Specific technical requirements of the request:

Special miniature bearings for high demanding bearings applications (high vacuum, large temperature changes). The supplier should have knowledge about ceramic and hybrid bearings and be capable of producing those bearings.

Current and Potential Domain of Application:

Stirling coolers are used for cooling IR detectors and IR cameras. They are mostly used in military applications. We see some potential in using coolers for applications where you have to cool under -50°C , where Stirling coolers become more effective than competition

Collaboration Type:

- Joint further development
- Adaptation to specific needs
- Transfer of knowledge in new raw materials
- New way to use an existing production line

Type of partner sought: Industry.

Specific area of activity of the partner: Manufacturer of miniature rotary bearing.

Task to be performed: Supply of miniature rotary bearings, technical assistance.

Środek smalny do chłodzenia i smarowania narzędzi do perforacji blach***Lubricant for cooling and lubrication of tools to perforate plates***

(Ref: 09 DK 20B3 3FJT)

Duńskie przedsiębiorstwo poszukuje środka smarnego o dobrym efekcie chłodzącym.

Środek ten będzie stosowany przy produkcji do smarowania i chłodzenia narzędzi do perforacji blach aluminiowych i stalowych.

The product sought must have a high cooling effect and high lubrication effect, but the aluminium must be left without grease. Furthermore the lubricant must not damage the surface of the aluminium.

Technical Specifications / Specific technical requirements of the request

Today the company is using a bio cutting oil called BIO-Skaer 2000 but is looking for an alternative.

Current and Potential Domain of Application:

The technology sought may be from the aluminium industry, but may also be adapted from another sector.

Collaboration Type:

- Testing of new applications
- Adaptation to specific needs

Type of partner sought: Industry.

Specific area of activity of the partner: Manufacturer of lubricants.

The task to be performed by the partner sought: Supply of a lubricant which can be used in the aluminium sector for work in perforating aluminium plate.

Cięcie laserowe i ręczne pakowanie materiału do produkcji lusterek podręcznych
Laser-cutting and hand packaging of material for hand-held mirror

(Ref: 09 GB 4407 3FLG)

Przedsiębiorstwo z siedzibą w Londynie niedawno rozpoczęło produkcję nowoczesnych lusterek podręcznych. Ponieważ przedsiębiorstwo to spodziewa się wolumenu sprzedaży rzędu 40 000 sztuk, jest ono zainteresowane znalezieniem partnera, który mógłby pomóc w procesie produkcji. Proces ten obejmuje nadruk na winylu, cięcie laserowe arkuszy oraz pakowanie produktów. Przedsiębiorstwo to jest głównie zainteresowane pomocą w cięciu laserowym i poszukuje partnerów z branży produkcyjnej z doświadczeniem w cięciu laserowym.

A London-based company has recently launched a new product: a credit-card sized handheld mirror for use "on the move". Up to now, the company has produced their product in-house in the UK. Due to high expected sales volumes, they are looking for a partner who can assist in part of the manufacturing process.

The manufacturing process includes three steps: 1) Printing graphic onto vinyl, then applying this vinyl graphic to free issue acrylic sheet; 2) laser-cutting the sheets; and 3) hand packaging of the resulting pieces. Ideally, the company is looking for a partner that can take care of all three steps, but the most important step is the laser-cutting. Thus, the company is looking for partners with experience in laser-cutting for a manufacturing agreement.

Technical Specifications / Specific technical requirements of the request:

The manufacturing process includes three steps:

- 1) Printing graphic onto vinyl, then apply this vinyl graphic to free issue acrylic sheet no thicker than 3mm;
- 2) Laser-cutting the composite sheet into pieces no larger than 60x90mm each
- 3) Packaging by hand of the resulting pieces, for shipping and retail.

The company will provide the acrylic sheet. If the partner can take care of packaging, the company will provide the packaging options and relative numbers.

At present, the company is forecasting orders of 40,000 units, so the partner must be able to handle such volumes. Ideally, the partner should have the capability to increase production, in line with increasing demand.

Current and Potential Domain of Application:

The product will be a stylish accessory with in-built branding and will have a market in such fields as corporate gifts, marketing and fashion.

Collaboration Type:

- Joint Venture Agreement
- Transfer of knowledge in new raw materials
- New way to use an existing production line
- Change in the partner sought's currently used technologies (installations, process, facilities)

Type of partner sought: Industrial partner with experience in laser cutting.

Task to be performed by the partner sought: Manufacturing agreement.

Nowoczesna technologia produkcji maszyn do wycinania i zamykania toreb plastikowych
Novel technology to produce plastic bag cutting and sealing machines

(Ref: 09 TR 99PB 3ERI)

Tureckie przedsiębiorstwo poszukuje nowoczesnej technologii produkowania rękawa foliowego, cięcia toreb plastikowych oraz maszyn zamykających dla branży opakowaniowej. W preferowanej opcji technologia ta powinna już być dostępna na rynku. Przedsiębiorstwo chce zawrzeć umowę spółki.

The company currently manufactures extruder film machines and recycling machines for packaging industry. With the aim of quick implementation, and establishing a knowledge and technology based cooperation it is looking for a joint venture agreement.

Technical Specifications / Specific technical requirements of the request:

Company is looking for a novel packaging machinery production technology, which includes attractive terms of technology.

Collaboration Type:

- Joint Venture Agreement

Type of partner sought: Industry.

Specific area of activity of the partner: Manufacturer of plastic packaging producing machines.

Task to be performed by the partner sought: Present a joint venture agreement.

Bardziej efektywna technologia mielenia cząstek *More effective particle grinding technology*

(Ref: 09 NL 60AH 3E6L)

Holenderskie przedsiębiorstwo poszukuje skuteczniejszej technologii mielenia cząstek, umożliwiającej większą manipulację profilem rozkładu cząstek, co prowadzi do lepiej zdefiniowanej i/lub mniejszej rozpiętości rozmiaru cząstek. Ten rodzaj współpracy może obejmować udzielenie licencji, dalszy wspólny rozwój lub bezpośredni zakup. Przedsiębiorstwo to wejdzie na rynki światowe i jest zainteresowane kontaktami z partnerami przemysłowymi i/lub uniwersytetami.

More effective particle grinding technology is sought by a Dutch based multinational that will allow greater manipulation of the size distribution profile, leading to better defined and/ or narrower distributions. The grinding operation should be completed in a similar timeframe to current approaches, and should be scalable from grams to tonnes.

Technical Specifications / Specific technical requirements of the request
Current ground particles are typically in the range of 0.1-3mm, but solutions are sought that could cover a broader range (e.g. 0.01 – 6mm).

Current grinding approaches are applied to a range of materials, some of which have been heat treated, which leads to a degree of brittleness. An alternative approach could carry out the heat treatment during or after the grinding operation.

The materials are generally dry, but may contain air and some residual water within the structure; they are mostly organic with traces of inorganics.
Keywords: Grinding, milling, controlled size distribution, narrow particle size distribution, micron/mm size range.

Current and Potential Domain of Application:

Food industry.

Collaboration Type:

- License Agreement
- Testing of new applications
- Adaptation to specific needs
- Assembly

- Engineering
- Technical consultancy

Type of partner sought: industry, research institutes and/or universities.

Task to be performed: The Dutch company is willing to explore any reasonable technical and commercial agreements, including licensing and acquisition.

Ultradźwiękowa maszyna do cięcia produktów cukierniczych w środowiskach gorących *Ultrasonic cutting machine in a hot environment for confectionery products*

(Ref: 09 ES 27F4 3DT0)

Andaluzyjski producent produktów cukierniczych w Hiszpanii poszukuje ultradźwiękowej maszyny do cięcia produktów w środowiskach gorących. Spółka szuka partnerów zainteresowanych umową o współpracy lub umową handlową wraz z wsparciem technicznym.

The company is interested in finding an ultrasonic cutting machine suitable in a hot environment at 80°C, for one of their baked products. At the moment, they are using a conventional ultrasonic cutting machine. For this reason during the process of ultrasonic cutting, tears and cracks occur at the edges of the mower blades. They would like to find a machine that works properly under high temperature conditions.

Technical Specifications / Specific technical requirements of the request:

The machine should work in a continuous process of Ultrasonic cutting in a hot environment (80 °C). The cut should be ultrasound at a frequency close to 2000 Hz, cut must be made cyclic. The range of maximum wave should be perfect to make the cut.

Collaboration Type:

- Adaptation to specific needs
- Engineering
- Technical consultancy

Type of partner sought: industry.

Specific area of activity of the partner: manufacturer of ultrasonic cutting machines in a hot environment.

Task to be performed: development or adaptation of an ultrasonic cutting machine to the required technical specifications and product.

Rozwiązania dla sortowania i wycinania toreb *Solutions to sort and cut pouches*

(Ref: 09 BE 0213 3EB7)

Wielonarodowe przedsiębiorstwo zajmujące się towarami konsumenckimi z siedzibą w Belgii poszukuje precyzyjnych i niezawodnych rozwiązań do sortowania i wycinania małych toreb o wielu przegrodach, w możliwych warunkach dusznych i lepkich pomieszczeń. Proponowane rozwiązanie może być albo testowane laboratoryjnie, terenowo, lub może już być dostępne na rynku. Przedsiębiorstwo jest więc otwarte na różne rodzaje partnerstwa, w zależności od etapu rozwoju proponowanego rozwiązania.

A multi-national consumer goods company looks for solutions to sort and cut multi-compartment small-sized pouches.

Scrapped pouches from the production line are currently handled in bulk bags and they are collected as input to the system that will sort and cut them.

Some pouches may already be torn or destroyed before they enter the system and therefore the system would need to handle such pouches and be able to exclude the undesired pouches from the separation process.

Since one of the compartments of the pouch could contain powder or liquid, the concepts must work in a dusty or sticky environment.

The pouches are made of flexible film and can therefore be squeezed without breaking.

The company looks for partners who have experience in the field of similar processes. The ultimate goal is to have equipment concepts which can be benchtested with products.

The proposed solutions could be either laboratory tested, field tested or already available on the market. The company is therefore open to various

types of partnerships depending on the stage of development of the proposed solution.

Technical Specifications / Specific technical requirements of the request:

The company specifically looks for accurate and reliable solutions to the following issues related to the above described process:

1. Separation of each compartment stream with minimal contamination from one stream into the other.
2. Handling of several compartments in a pouch containing either liquid or powder in each of the compartments.
3. Reliable performance in dusty (pouch with powder) or sticky (pouch with liquid) environments.
4. Flexibility of the system to handle uncut pouches “strings” or single pouches at a time.
5. The compartment size of the pouch can range from 1 ml of product to 50 ml of product and / or a combination of multiple sized compartments in one pouch of all possible combination (e.g 1 compartment 40 ml + 1 compartment 2 ml + 1 compartment 10 ml). All those compartments are part of the same pouch.
6. The proposed solution should not expose the company to a freedom-to-market risk, i.e. should not infringe competitive patents.

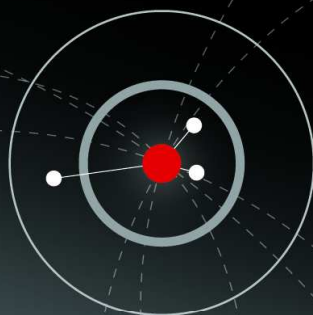
Collaboration Type:

- License Agreement
- Testing of new applications
- Adaptation to specific needs
- Engineering
- Technical consultancy
- Quality control

Type of partner sought: academia or industry (including SME).

Specific area of activity of the partner: sorting and cutting processes.

Task to be performed by the partner sought: to provide the company with the requested solution, eventually by customizing an existing solution to the company's specific needs.



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