# Living the Dreams! Innovation Day 2017

Slovenian National Innovation Awards 2017



# The future shall be based on knowledge and innovation even more than is the case at present. Strive for new knowledge and innovation!

Borut Pahor, President of the Republic of Slovenia

Sailing in commercial waters has never been easy; prudence and perseverance are useful attributes, but when harnessing the breath-taking wind of innovation, courage is of the utmost importance. Capture the right wind, and it shall lead you into a new reality.

Zdravko Počivalšek, Minister of Economic Development and Technology

The world is shaped by special people who are not afraid translate imagination, creativity and innovation into all those things that fill our daily lives. These are the innovators. Nourish the innovator within yourself! Mag. Gorazd Mihelič, Director of Spirit Slovenia, Public Agency

Innovation and creativity need freedom, trips into the unknown, interdisciplinarity, teamwork and the support of management. Develop and strengthen curiosity, exploration of the new, and collaborate with others in both research and production. Only then can innovation be born and develop within the enterprise. Boštjan Gorjup, President of the Chamber of Commerce and Industry of Slovenia

# **Conditions for successful innovation**

Dreams and wishes for a better world.

An idea.

A market need.

Interest in the development of an idea, as well as the search for a solution.

Courage.

Creative thinking.

Knowledge.

Co-operation of R&D with marketing.

Teamwork.

Development of a competitive product.

Knowledge of development trends.

An innovative working environment. Management, dedicated to innovation.

Persistence.



Innovative companies are open to change, they neither limit their employees nor exercise absolute authority. Foster an open and innovative culture!

Be persistent! Persevere in the realization of your innovation! The initial idea needs to be determinedly developed and upgraded.

Work in a team. Cultivate trust, professionalism and good relationships between team members!

Define the problems of potential customers, think how your product will improve their lives. In light of this, consider the design of the product.

Nurture those dreams which lead you to the creation of a better society.

Do not be afraid of obstacles! Overcome them!

Foster crazy ideas, then adjust them to real life.

Go forward boldly - and do what you enjoy!

Be consistent. Follow your dreams, and follow the energy that maintains your desire to create something new and something better!

> Believe in yourself and your team, and "just go for it"!

Be bold, be realistic, follow the current trends and try to keep in line with them.

# Top tips for aspiring innovators

You need to live with innovation, day and night. You shall experience successes and failures, but strive for success. This is life; accept it!

Take on the seemingly impossible challenges, only those bring you to solutions that matter.

Three things are important in innovation: the idea, the courage to implement the idea, and a supportive environment. If any of these factors are missing, there is no innovation. Stay in a good mood. The development and realisation of an innovation requires enormous effort. In this you shall at least get experience, and at best success!

Don't just do the job - it should also be fun and play.

Think, think, think, and wait for your innovative idea to fully ripen. Then: GO FOR IT, develop your innovation!

Innovate from the heart, and, although sometimes it may still be difficult, overall everything will be easier.

Don't give up. Don't bother with obstacles. Insist.

Think and innovate differently, stand by your idea - especially when you "sell" it within your company.

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#### Aereform d. o. o.

# Flight Simulator Using VR Goggles For Basic Training of Pilots

The flight simulator employing VR goggles essentially differs from all other simulators in that it effectively enables the pilot a shift of view across the entire visual field. The VR goggles also adjust the focal point according to the position of the user's head, thus the image adjusts with it. It is equally important that this simulator is extraordinary immersive, and during a session it ingeniously and convincingly takes the user into a different space and time. Another vital advantage of this simulator is that it can be used in basic aircraft piloting instruction and training, which the majority of existing simulators do not facilitate.

This innovation confirms Aereform's business and development model of manufacturing complex high-value-added products. These derive from a wide range of in-house technological solutions developed by its personnel. Aereform has consolidated its position as a development partner of Pipistrel Aircraft, and won great renown as a highly proficient and innovative prototype constructor. A small, high-quality company in the field of light aviation technology, Aereform's vision is to become the partner of choice in prototype vehicle development.

#### Innovators:

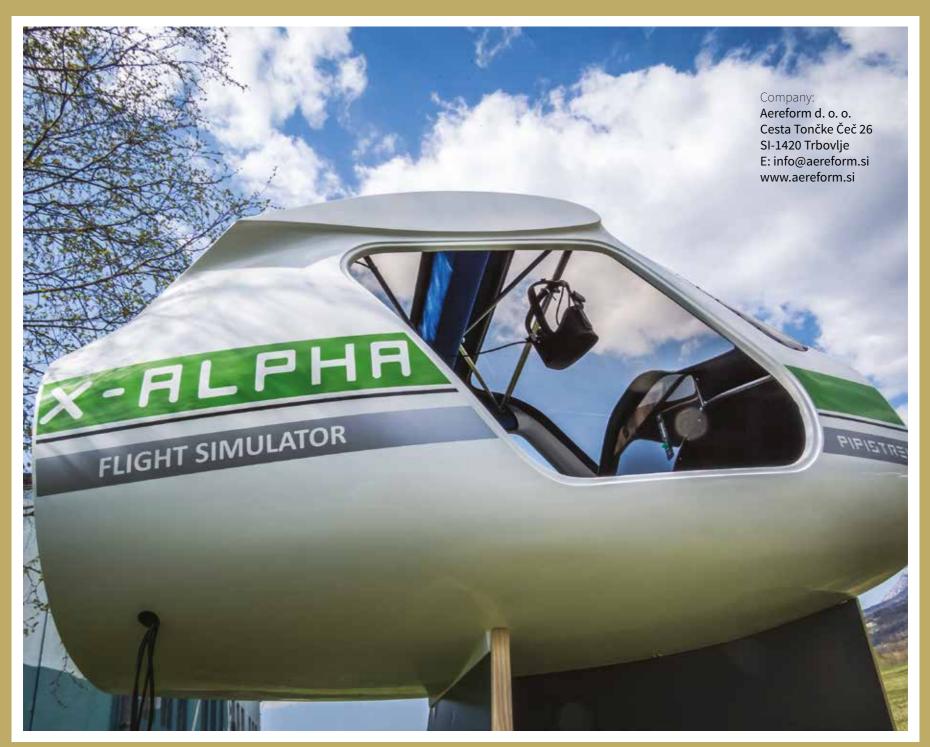
Sašo Knez, Nika Mlinarič, Aljoša Skočir, Ines Repnik, Aljaž Trebušak, Nino Razpotnik, David Hanč











# GOLDEN AWARD BSH Hišni aparati d. o. o. Nazarje OptiMUM

The OptiMUM is an universal kitchen appliance, and the innovation lies in the design of its individual elements, such as housing, gearbox and the shape of attachments used for optimal food processing. Based on intelligent technology, the OptiMUM has a powerful 1500 W motor and an extra-large 5.5 litre capacity brushed stainless steel bowl, while its integrated scales - a unique feature on the market - save time and make the preparation of complex recipes easy. Thanks to its intelligent SensorControl Plus automated programs, dough, cream and egg white of perfect consistency can be prepared automatically. A vast array of accessories ensure the simple realisation of a huge variety of cooking and baking ideas, including the preparation of home-made pasta, juicy burgers and healthy smoothies. The OptiMUM has received the IF Design Award 2017, as well as the Red Dot Award 2017 for design excellence.

#### Innovators:

Matej Čater, Uroš Semeja, Aleš Brečko, Peter Kovačič, Boštjan Kovačec, Tadej Holcinger, Gregor Slakan, Igor Dečman, Aleksander Strojanšek, Matej Švara, Tomaž Robida, Simon Knez, Roman Pačnik, PhD., Henri Orbanič, PhD., Jože Lesjak, Aleš Jakše, Marko Lenošek, Blaž Slatinšek, Marko Ivanušič











# CETIS d. d. E-Passport Data Page Polycarbonate Binding Solution

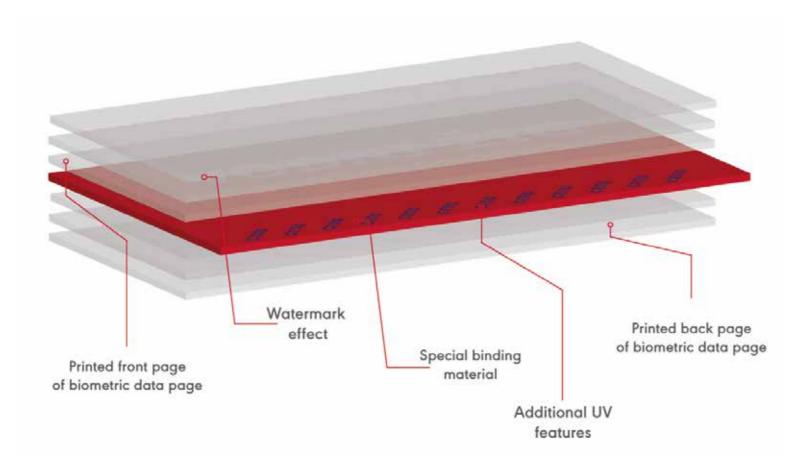
Cetis d.d. has developed a new generation of bound polycarbonate data pages for use in biometric passports. The patented solution includes numerous improvements in terms of safety, durability, flexibility, compatibility and reliability. In addition to the more than 50 extant safety features, the innovation carries additional watermark and ultra violet protection systems, further enhancing Cetis d.d. as a world leader in the provision of polycarbonate data pages for passports.

#### Innovators:

Roman Žnidarič, MSc, Jana Hleb, Franci Zajc, Milan Keričč

Company: CETIS d. d.

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#### Danfoss Trata d. o. o. NovoCon – Smart Hydronic Actuator for HVAC Systems

The NovoCon smart hydronic drive actuator for HVAC systems provides a solution that can deliver large savings in poorly dimensioned or implemented heating and cooling systems in which energy consumption is up to 50% more than is necessary. NovoCon's advantage lies in its greater precision and flexibility in covering different HVAC applications, in its allowing quick incorporation of additional sensors, new alarm functions, as well as in the possible integration of certain HVAC regulator functions. All these reduce investment in infrastructure as well as deliver greater energy savings.

#### Innovators:

Lars Munch, Igor Azinovič, Andraž Kontarček, Primož Gorjup, John Kelly, Sean Boden

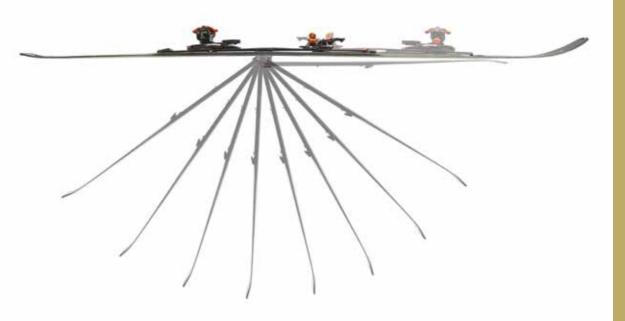






# Elan, d. o. o. Foldable Touring Skis Elan Ibex Tactix & Foldable Touring Skis for Special Forces

When carried on a backpack, long classic touring skis make walking difficult, especially when traversing dwarf pine plantations or attempting to climb through difficult terrain. In order to improve the mobility and safety of extreme tour skiers and alpine military units, ski maker Elan has developed functional foldable back-country skis for the Slovenian army. Known as the Elan Ibex Tactix, these skis allow easier transport and greater agility, and are a novelty on the global market. These foldable skis, which will be available for civilian use from 2018 onwards, provide users with a supreme quality skiing experience, enabling everything from descent from a helicopter to easy navigation through demanding terrain.



Innovators:

Vinko Avguštin, Andrej Hrovat





C

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ETI d. d. Izlake RC eNeM Novi Materiali d. o. o. Technological Developments in the Manufacture and Processing of Thermostatic Elements

The integration of innovative high technology manufacturing has resulted in major improvements in the high-capacity manufacture of thermostats. This has provided ETI with a huge advantage over its competition that will enable the company to become a leading manufacturer of thermostat elements.

#### Innovators:

Gregor Ceglar, Jure Raspotnik, Damjan Strmljan, Samo Urbanija, Maja Macerl, Franci Ocepek, Ines Bantan, Simon Lebar, Joži Prašnikar, Peter Bregar





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#### and Company:

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#### Gorenje d. d.

# **New Generation of Dishwashers SmartFlex**

The new generation of SmartFlex dishwashers excel in their extremely low energy consumption (10 % below the A +++ grade energy efficiency threshold). The SmartFlex DW30's impressive stainless steel interior, one of the largest on the market, can accommodate 16 place settings at a time, and even 35 cm diameter plates. Equipped with a special water tank, that reduces water consumption to only 6.9 litres per cycle, the DW30 is also super silent, operating at a mere 41 dB.

Acclaimed in independent professional magazines and guaranteeing perfect washing results, the new SmartFlex range also excels in relation to the unique automatic door opening and optical signal display (both patent pending), low consumption water tank replete with special filter systems, and special effect exterior LED light.

Such innovations further strengthen Gorenje's position in demanding global markets.

#### Innovators:

Mats Lilja, Anders Sahlen, Thomas Persson, Aleš Osredkar, Jernej Heindl, Jana Kovač, Ksenija Sovič, Alen Kešetović, Peter Sevčnikar, Stanko Kanduti, Damjan Novak, Borut Keržič, Dejan Kokol











# Iskraemeco, d. d. Smart electricity meter platform

With an innovative platform approach, this next generation smart meter enables the seamless integration of smart metering functions in the context of the smart grid. The platform complies with EU functional requirements for smart meters and facilitates easy and cost-effective adaptation to various national market requirements. It also provides a solution to the key challenges faced by electricity distributors who want to transition to the smart grid.

#### Innovators:

Tomaž Dostal, Miha Ušeničnik, Vjekoslav Delimar, Janez Zavašnik, Petar Štimac, Tibor Rafa, Uroš Jerman, Luka Šparovec, Gregor Rodič, Uroš Bizjak, Tomaž Peterman, Jure Arh, Ludvik Kumin, Tomaž Brejc, Klemen Omahen, Boštjan Dolžan, Simon Boštar, Simon Balanč, Primož Košir







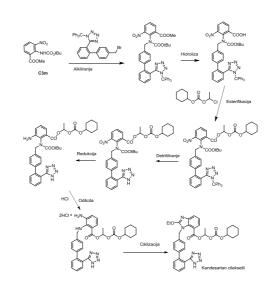
# KRKA, d. d., Novo mesto Process Optimisation of Active Pharmaceutical Ingredient Candesartan Cilexetil Production

Krka has developed a new process for manufacturing the active ingredient Candesartan Cilexetil, which it has now introduced into industrial scale production. The innovative procedure is accomplished using primary input ingredients, namely, substances which are cheaper and easier to obtain than those used in the erstwhile process.

This new procedure is some 30 % more efficient, and Krka has replaced the ecologically problematic tributyltin compounds with ecologically more acceptable ones. The introduction of regenerated solvents in this process also confirms that environmental protection remains an important factor in Krka's business strategy.

#### Innovators:

Jerneja Böhm, Miro Dobravc, David Kralj, PhD, Dušan Krašovec, Tadej Stropnik, Silvo Zupančič, PhD











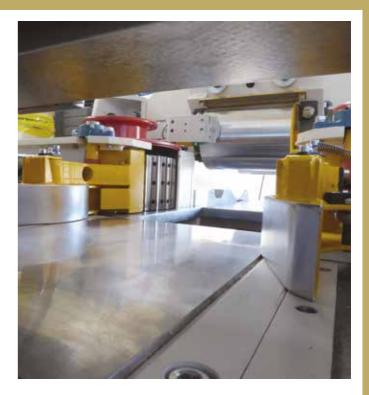
### Ledinek Engineering, d. o. o. System of Active Floatational Planing with Continous Symetrical Distribution of Left and Right Decrease

Using innovative floating vertical spindle technology, which actively assists integrated motordrive machining, Ledinek Engineering has delimited one of the most exacting processes of high performance industrial planing. State of the art software calculates and compensates vertical movement and curves in the board in real-time. The highly responsive data-driven process also ensures constant centring and gauging of the thickness of the board, thus the actual feed speed through the planer is optimised.

Through the application of computer technology, the Stratoplan 4VA planer avoids any jamming or breaking of the workpiece, and ensures cut-offs are kept to a minimum. Most significantly, the Stratoplan 4VA has some three time the capacity of a conventional machine planer

#### Innovators:

Viljem Ladinek, Stanislav Vidovič, Janez Klemenčič (Simat - Janez Klemenčič s. p.)





Company: Ledinek Engineering, d. o. o. Bohovska cesta 19 A SI-2311 Hoče E: info@ledinek.com www.ledinek.com



# Lek farmacevtska družba d. d., Razvojni center Slovenija Novel children friendly form of antibiotic

The treatment of bacterial infections in children is challenging. Swallowing large tablets can be difficult, while liquid suspensions have their shortcomings – they needs to be kept in a fridge and accurate dosing is not easy. Lek has thus been endeavouring to develop a more suitable pharmaceutical form.

With a thirty-year tradition in producing one of the most popular medicaments in the treatment of bacterial infection, Lek's development of this more childsuitable form drug delivery began in 2012. Taking an innovative approach, Lek's development of a fast dissolving tablet containing Amoxicillin and Clavulanic acid has today succeeded in doing away with all the shortcomings of liquid suspensions. The new tablet is simple to administer, allows precise dosing, has a better taste and is easier to store as it does not need to be refrigerated.

#### Innovators:

Rok Starič, Petra Perhavec,

Dejan Krajcar, Marko Oblak, PhD, Mateja Šikovec, PhD, Urška Korošec, Lidija Pušnik Verdnik.

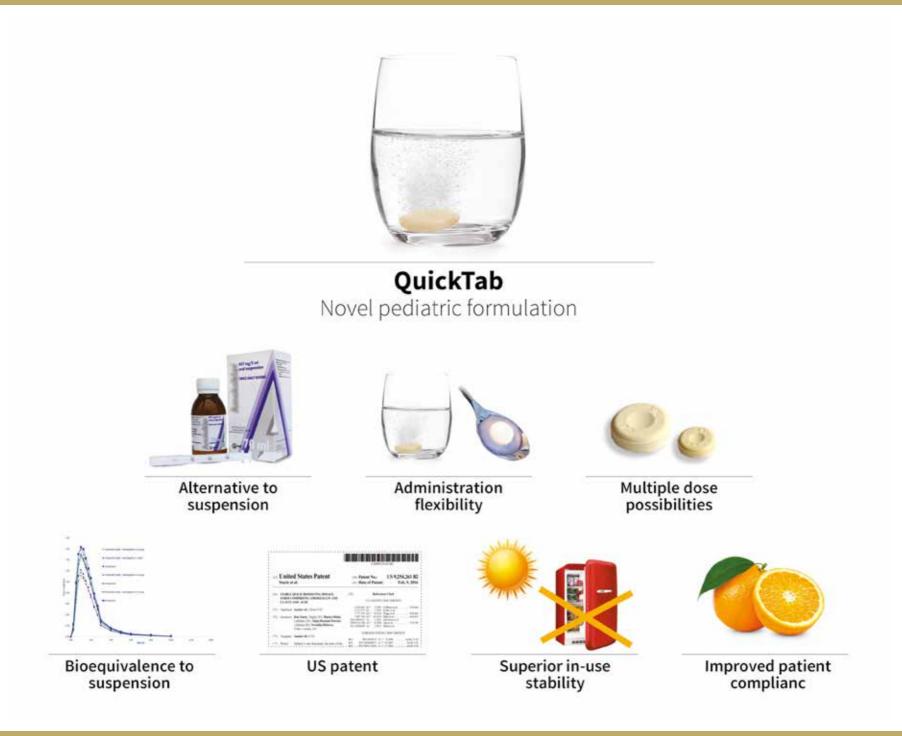
#### Company:

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Ljubljana - Sandozov razvojni center Slovenija

Prevalje - proizvodnja izdelka



#### SIJ Acroni d. o. o. Razvojni center Jesenice, d. o. o. Fly with SINOXX 4542 Steel

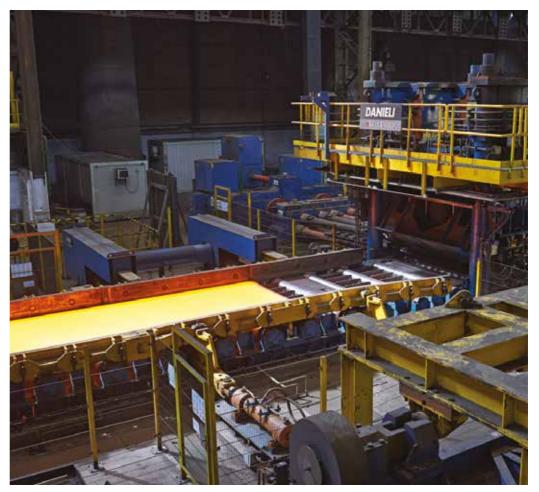
With this award-winning innovation, SIJ Acroni has established the foundations for incorporating a new group of stainless steels into the company's production programme. Together with austenite, ferrite and martensite stainless steels, SIJ Acroni is henceforth able to manufacture precipitation hardened steels intended for technological applications in the most demanding environments.

Large dimension SINOXX 4542 plates can also be provided final heat treatment, significantly reducing the time and production costs, thus SIJ Acroni's customers also benefit from the added value of this intermediate product.

SIJ Acroni is further fortifying its position as a niche manufacturer of supreme quality steel and has positioned itself as a market leader in the provision of specialist steels for the paper and chemical industries, as well as manufacturers of specialist machine parts for the aircraft industry.

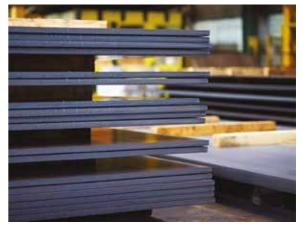
#### Innovators:

Boštjan Bradaškja, PhD, Boštjan Pirnar, MSc, Matevž Fazarinc, PhD, Grega Klančnik, PhD, Stanislav Jakelj, Viktorija Marušič, MSc, Milan Klinar, MSc, Robert Robič, Anton Košir, MSc, Anton Jaklič, PhD, Primož Jan, Borut Lešnik









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#### and Company:

UNBBO

Company:

Razvojni center Jesenice, d. o. o. Cesta Franceta Prešerna 61 SI-4270 Jesenice

#### SPECIAL INNOVATION AWARD FOR YOUNG COMPANY

# Knez David InDavidual s. p., Zagorje ob Savi QuickShoeLace – One Hand Tying Elastic Shoelace with a Ring

QuickShoeLace is an elastic lace that doesn't need to be tied: you just stretch it and clip it. At one end of the lace is a ring that you just clip onto a metal pivot. All the parts are replaceable and can be disassembled very quickly.

The advantage of this lace is that it can be clipped with just one hand. It is suitable for all generations, as well as those with disabilities or who believe tying laces is a waste of time.

The QuickShoeLace is also a fashion accessory, and personalized laces can be made to order.

Innovator: David Knez





Company: Knez David InDavidual s. p., Zagorje ob Savi Tirna 28F SI-1410 Zagorje ob Savi E: info@quickshoelace.com Quickshoelace.com

### **SILVER AWARD**

### Bosio, d. o. o. Fully Automatic Plant with Isothermal Chamber for Forged Parts - PP-T 8/950

Designed and constructed for a client in the Czech Republic, the fully automated heat treatment system for forgings includes an isothermal chamber in which the desired microstructure of the material is attained through rapid cooling, irrespective of the shape or mass of the piece. This is enabled through a special steering design as well as regulation of chamber elements that automatically adjust parameters through adaptive control.

Bosio's innovation achieves excellent results and signifies an expansion of the company's activities into the automotive sector.

Innovators: Jurij Škorjanc, Jernej Bratuša, Jože Šket







# SILVER AWARD

# Cerjak d. o. o. Shear Bolt Clutch (ST)

The shear bolt clutch, an important part of a PTO drive shaft, protects machinery from damage resulting from overloading. The Cerjak KG shear bolt clutch is unique in the market as it features several pre-set nominal torques, a feature that facilitates greater flexibility and reduced cost, as it can be used with several machines. Requiring just a single tool, replacement of the shear bolt is both simple and fast, thus the time between machine stop and restart is short. The ergonomic shape of the shear bolt clutch enables easy attachment to the machine, whilst its symmetry also helps reduce the negative impacts on torque, a feature which also extends lifespan.

Cerjak KG shear bolt clutches have given the company an advantage in selling to agriculture, forestry and the water industry throughout Europe and beyond.

Innovators: Matjaž Cerjak, Stanislav Konečnik

#### Company:

Cerjak d. o. o. Žadovinek 38 SI-8273 Leskovec pri Krškem E: info@cerjak.si www.cerjak.si







# SILVER AWARD Domel Holding d. d. VCM for Stick Vacuum Cleaner

The EU's 2017 energy consumption requirements for vacuum cleaners limit input power to less than 900 W. This has brought new challenges and possibilities for innovation. Domel has taken advantage of this opportunity and developed two new families of motors for use in stick vacuum cleaners that are becoming increasingly popular among consumers. In combination with an array of other advantageous features, the new families of Domel vacuum cleaner motors are notable for having the smallest dimensions and lowest weight in their class. Both motor types are already in regular production, and two variants are currently manufactured: one in Slovenia with a BMC (bulk moulded) housing, and the other in China with a sheet metal housing.

#### Innovators:

Romana Kavčič, Janez Rihtaršič, Domen Vrhunc, Aleš Eržen, Igor Markič, Domen Čemažar, Andrej Biček, Blaž Benedik, Marjan Kokalj, Dare Šturm, Primož Bajželj, Iztok Mohorič, Branko Jovič, Katarina Prezelj, Martina Bogataj, Teja Bertoncelj, Janez Kavčič, Ivan Mrljak, Alojz Mohorič, Ivan Krmelj, Miha Ogris, Matjaž Čemažar, Tomaž Stanonik, Matej Tadina, Tomaž Trpin



Company: Domel Holding d. d. Otoki 21 SI-4228 Železniki E: info@domel.com www.domel.com

# Doorson d. o. o. Automatic Interior Sliding Doors

The new PL 400 generation of automatic sliding doors have been especially designed for internal use in commercial, public and accommodation environments. With their integrated sensors, these doors are equipped with a linear motor that provides smooth and silent operation. Visually and aesthetically appealing, these elegant doors can be tailored to individual needs and to existing interior designs. The PL 400 sliding door also facilitates easy and safe use by children and the disabled.

Innovators:

Slavko Cehner, Franc Hanžič, Urban Cehner, Rok Kuhar





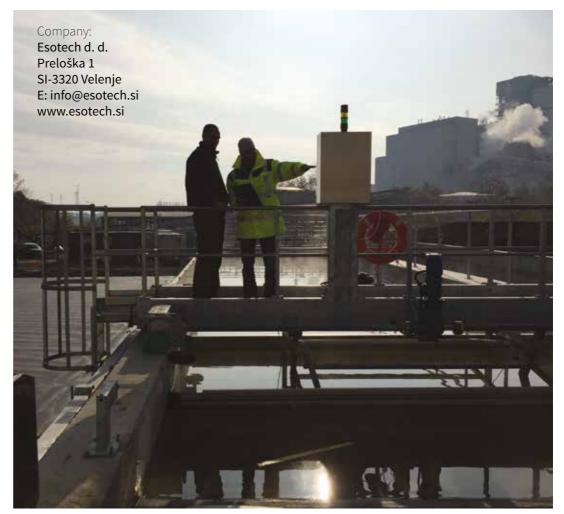
# Esotech d. d. Waste water treatment plants in thermal power plant Nikola Tesla A

The wastewater treatment system at the Nikola Tesla A thermal power plant in Obrenovac, Serbia, is the fruit of Esotech's in-house concept, development and technology. Esotech's optimization of its purification plant pilot projects has culminated in the creation of a facility capable of treating some 650 m3/h of water polluted with oils, including heavy fuel oil, lignite, as well as waste water generated in the process of flue gas desulphurization.

The project is novel in terms of technology, operation and optimization of industrial water treatment. The system's effectiveness is comprehensive, while the knowledge acquired by Esotech in its development shall provide the company with a competitive advantage which shall assure its increased involvement in similar projects going forward.

#### Innovators:

Iztok Hrastel, MSc, Boštjan Žigon, Marko Bojinović, PhD, Slobodan Mrkonjić, Primož Hostnik, Danilo Friškovec, Boris Štimnikar, Gabrijela Čevnik, Jure Šemrov, Matej Planinc, Maks Motaln, Željko Žarković, Boštjan Vaš, Tomaž Rakovnik, Peter Jelen, Uroš Krajner, Matej Firer, Aljaž Zajamšek, Gregor Blagotinšek, Nejc Kolarič, Suzana Mlakar, Mersida Rogo, Peter Iskrač, Grega Volk, Boris Kos, Jolanda Janežič, Andrej Stergaršek, PhD, Milenko Roš, PhD, Sašo Kure, Irena Baš





# GoOpti Inteligentne Transportne Rešitve d. o. o. Innovative Platform Business Model for Penetrating European Markets as a Foundation for Rapid Growth of GoOpti

GoOpti has received several awards for its innovative smart platform - replete with an in-built reservation system and dynamic price setting - for the dynamic provision of affordable airport transfer services. GoOpti's exceptional market potential has been confirmed by 900,000 passengers (between 1.7.2011 and do 30.6.2017), sustained growth in revenues and an expanding client base, as well as the interest of other service operators, this with the prospect of co-operation. GoOpti's established business model has been successfully internationalised, and today franchised operators in Italy and Spain are providing reliable, safe and flexible transfers at an affordable price.

#### Innovators:

Marko Guček, Tomaž Lorenzetti, Sašo Sušnik, Boris Horvat, PhD, Alen Orbanić, PhD, Alexis Zrimec, PhD, Simon Belak

#### Company:

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# SILVER AWARD HIDRIA AET d. o. o. SSDM (Solid State Driver Module)

Hidria AET ignition systems and electronics has developed a control module for the after-treatment systems used in heavy machinery and vehicles manufactured by Caterpillar Inc.. These exhaust pipe systems result in a significant reduction in harmful gas emissions. Hidria's control module has the advantage of being able to simultaneously regulate several subsystems in conjunction with the catalytic converter, which facilitates the smooth and environmentally friendly operation of internal combustion engines.

This is Hidria's first venture in the provision of highly demanding electronics for the Caterpillar-Perkins group. The development of this module, and the company's consequent expansion into vehicle electronic subsystems, has opened up new market niches and sales possibilities for Hidria.

#### Innovators:

Jaka Kleč, Črtomir Juren, Jani Čebokli, Matija Gaberšček, Aleš Kranjc, Jernej Rejc, Dean Kravos, Andraž Gregorčič, Rok Bizjak





Company:

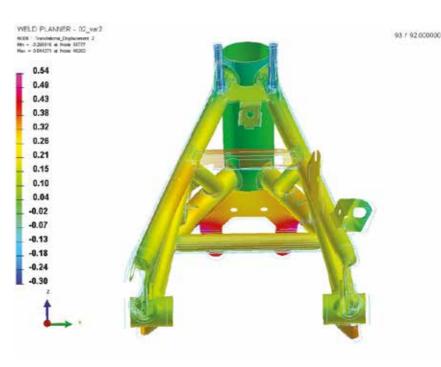
HIDRIA AET d. o. o. Poljubinj 89A SI-5220 Tolmin E: info.aet@hidria.com www.hidria.com

# Hidria Rotomatika d.o.o., subsidiary Koper, B.U. Hidria Mototec Simulation of Welding of Motorcycle Frames

SThe welding simulator, as applied in relation to the various steel, alloy and composite materials used in the manufacture of motorcycle frames, can generate the reliable simulation of dimension deformations. Such deformations, caused by millimetre wide deviations in the frame structure, severely impact the handling properties of modern motorcycles. The simulator facilitates the provision of reliable data in relation to frame deformation. This enables a reduction in the time necessary for the development and stabilization of the welding process, and consequently shortens the optimization time in relation to the industrial development of new designs. Further to this, BMW has placed a large order with Hidria, which has more than doubled the company's sales figures.

Innovator: Branko Stanič

WELD PLANNER - 00\_right





48 / 47.000000

#### Company:

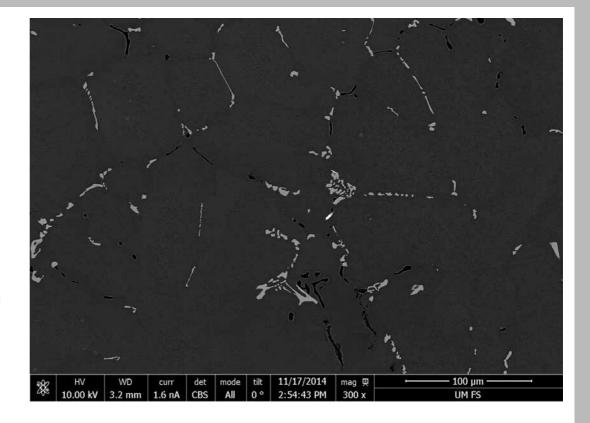
Hidria Rotomatika d.o.o., podružnica Koper, PE Hidria Mototec Šmarska cesta 4 SI-6000 Koper T: +386 5 610 50 19 www.hidria.com

# SILVER AWARD Impol 2000, d. d. Impol Extreme

The quality manufacture of high-strength Al-Mg-Si aluminium alloy is based on the preparation of components, melting, melt retention, the casting of rod ingots, homogenization, cutting, extrusion, shaping and thermal treatment. The precise procedure ensures the manufacture of an innovative aluminium alloy which excels in relation to its strength, resistance to dynamic strain, good tensile properties and corrosion resistance, together with resultant reduced energy consumption as well as environment protection during its production and use. In relation to certain applications in the automotive sector, this Al-Mg-Si alloy represents an alternative to high strength steel. The acquired patent rights enable the further production of high-strength 6000 series alloys, and provides Impol with an advantage over its competitors.

#### Innovators:

Peter Cvahte, PhD, Marina Jelen, Vukašin Dragojevič, Matej Steinacher, PhD





# SILVER AWARD INO Brežice d. o. o. INO Vibration Control System

INO Brežice has broken new ground in the development of smart devices for agricultural machinery. The innovative solution package is a combination of machine, sensor and smart mobile device which together provide continuous information on optimal operation and the vibration levels in machinery. This unique concept and solution is the only one of its kind on the market, and currently patent rights are pending.

Innovators:

Branko Kos, Aleksandar Cvetanovski

#### Company:

INO Brežice d. o. o. Krška vas 34b SI-8262 Krška vas E: ino@inobrezice.si www.inobrezice.com







# Iskra PIO, d. o. o. Isolator for Weighing Highly Hazardous Raw Material with High Containment Level – OEB 5

Providing the highest degree of protection, this innovation can be used for weighing hazardous materials within the confines of a safety cabinet (isolator). In accordance with SMEPAC guidelines, this isolator is of an OEB 5 category, namely for the safe human handling of the most toxic and hazardous chemicals. The key novelty of this Iskra PIO isolator are the weighing scales mounted onto the isolator's wall. While the weighing process takes place inside the safety cabinet, the scale's electronic parts together with those components that are problematic in relation to cleaning, are located outside the isolator. The innovative incorporation of several scales with different measuring ranges together with special vessels enables an optimally arranged manipulation space, high precision as well as easy cleaning after the weighing process is completed.

This innovation reduces an operator's exposure to toxic and hazardous materials, and consequently improves occupational health and safety. In other words: the PIO isolator has a beneficent impact on the working environment, whilst its easy cleaning requires less washing and detergent thus reducing any environmental burden.

#### Innovators:

Davor Šterk, Aleš Cvelbar, Lojze Hosta, Marjan Hosta, Elvis Barukčić, Matej Pleterski, PhD, Mitja Gričar, Matjaž Grubar, Alojz Kračun (ALBA d.o.o)









# Isomat d. o. o. Mežica Isomat Pre-Fab Prefabricated 3E Application for Advanced Insulation Solutions for the Inusulation of Pipes and their Elements

The global need for energy management and saving, together with the increasingly strict ecological and safety standards applied to the use of materials, inspired Isomat to develop a group of prefabricated products for thermal insulation. These include pref-fab industrial pipe sections - encompassing both straight and elbow elements – replete with insulation to reduce heat losses.

Isomat's in-house technology was employed in the development of the pre-fab range which incorporates factory cut mineral wool with lamination. All products meet EU requirements and standards in relation to thermal insulation and energy saving, as well as in themselves contribute to a reduction in the carbon footprint.

Indeed, this innovation has resulted in a reduction of production costs, the saving of raw materials, zero waste, increased output capacity and product provision, as well as the simultaneous reduction of  $CO_2$  emissions due to the consequent optimization of product manufacture, transport and systematic assembly.

#### Innovators:

Darko Pregel, Niko Kladnik, Matjaž Šavc, Aleksandra Logar





# Kolektor Group, Vodenje in upravljanje družb, d. o. o. Ensuring of Tightness Using Micro-structuring of Surfaces

The growing demands of the car industry for innovative hybrid components requires the application of innovative technologies and use of composite materials. Kolektor has employed a conventional wet chemical etching procedure to achieve complex surface topographies in the creation of rigid thermoplastic composites. The innovation is thus based on replacing dirty, non-selective chemical etching with selective, dry technology. Employing this technology ensures the provision of components that are significantly cheaper and ecologically cleaner than those produced through traditional manufacturing solutions.

JOINT BETWEEN CHEMICAL ETCHER

SURFACE AND THERMOSSETING

COMPOSITE

NERVICORD ADDRESON

HO AIR GAPS

TIGHTNESS > 1 10" mbar-l/s

THEFT BOINT

MAGNET & CORROSION-RESISTANT

# Innovator:

Ana Drmota Petrič, PhD

#### Company:

LONGITUDINAL CROSS-SECTION O

Kolektor Group, Vodenje in upravljanje družb, d. o. o. Vojkova ulica 10 SI-5280 Idrija E: kolektor@kolektor.com www.kolektor.com

JOINT BETWEEN UNTREATED SUBFACE

AND THERMOSSETING COMPOSITE

NO ADMESION

AIR GAPS PRITUM

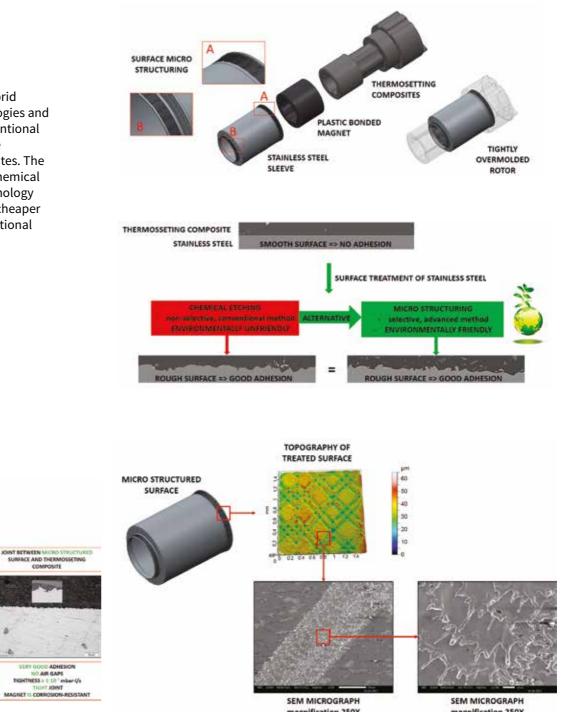
TIGHTNESS # 1-50\* mbar l/s

LEASY JOINT

MAGNET IS NOT CORROSION-RESISTANT

IOPTASTICEN KOMPOZI

NERJAVNO JEKLO



# Kovinoplastika Lož d. d., Stari trg pri Ložu **Slam Shut Door Lock**

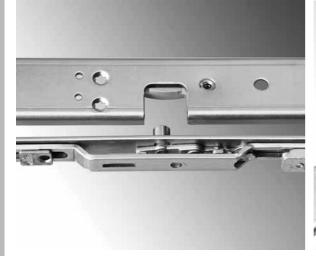
Kovinoplastika's automatic door lock is a safety closing system intended for front doors. The innovation is based on an integrated system for the automatic activation of pin and hook locking points which are engaged each time the door leaf closes. In other words: when closed, the door is fixed at six locking points.

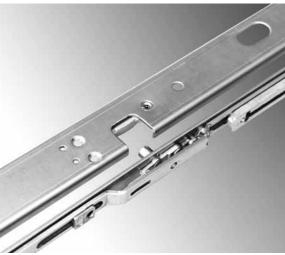
In addition to its provision of a high level of security this innovation also ensures a good seal between the entire door and its frame. This, in itself, reduces thermal energy loss, and consequently energy costs, as well as improves acoustic insulation, thus raising the quality of the living environment.

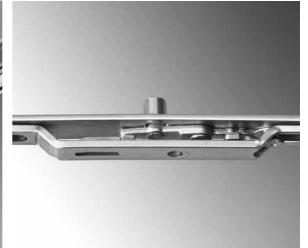
Innovators: Samo Petrič, Petar Tadić

#### Company:

Kovinoplastika Lož d. d., Stari trg pri Ložu Cesta 19. oktobra 57 SI-1386 Stari trg E: info@kovinoplastika.si www.kovinoplastika.si







# KRKA, d. d., Novo mesto Development of Patient-Friendly Metoprolol Prolonged-Release Formulation for Treating Cardiovascular Diseases

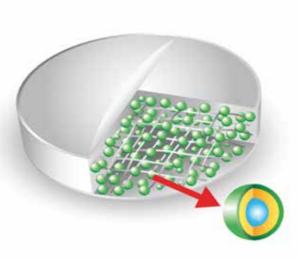
The innovation encompasses the development of tablets for the prolonged release of the beta-blocker Metoprolol Succinate in the treatment of cardiovascular disease. The multiple-unit pellet system in the form of film-coated tablets ensures that the active substance is released with a zero-order reaction. The product has consequently fewer undesired side effects and enables better patient co-operation. The pioneering solutions and analytical techniques employed in the development and robust production of such a complex pharmaceutical is the fruit of successful co-operation of experts drawn from a number of diverse fields. The innovative product is today available in Krka's key markets, and shall contribute to the future success of the company.

#### Innovators:

Marko Benković, Polona Bukovec, PhD, Katarina Dobrovoljc, PhD, Aleša Dular Vovko, Simon Kukec, PhD, Tatjana Mateović Rojnik, PhD, Aleša Punčuh Kolar, MSc







#### Company:

KRKÁ, d. d., Novo mesto Šmarješka cesta 6 SI-8501 Novo mesto E: info@krka.si www.krka.si

# SILVER AWARD L-TEK Elektronika d. o. o. FlyNest

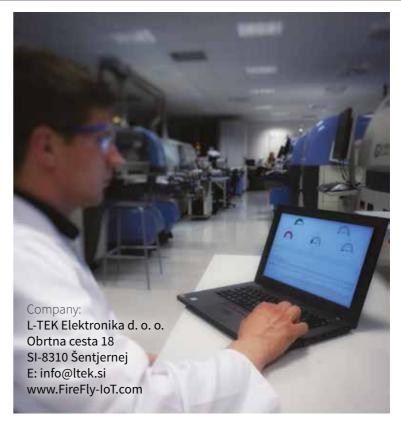
The FlyNest platform for the control and management of IoT building blocks comprises and connects intelligent metering and operating infrastructure as well as provides mechanisms for bridging various communication languages. It also facilitates safe wireless communication and storage systems, big data analysis, decision systems, graphic user interfaces for various platforms (web, smartphone, apps) as well as a system of services which enable interconnection and integration with other systems.

The core of the innovation lies in developing a sufficient number of modular building blocks in such areas as electronics, sensors, casing, integration of wireless communication (Bluetooth and Wi-Fi protocol), web services, cloud data storage and web visualization, all of which enable the efficient integration, implementation and realisation of a variety of industrial applications.

The functionality provided by FlyNest prevents unnecessary production failures and, through enhanced business performance, contributes to a reduction in operating costs.

#### Innovators:

Matej Slapšak, Viktor Zaletelj, PhD, Simon Krulec, Primož Zajec, Klemen Škoda, Gorazd Kovačič, Marko Stušek, Gašper Sladič







MAHLE Letrika, Proizvodnja električne in elektronske opreme za motorna vozila, d. o. o.

# Alternator with inovative cooling for long service life

Ventilators for electric motors and generators create an auxiliary flow of cooling air through apertures in the vent. Any such additional airflow can be used for cooling those parts of the motor that cannot be sufficiently cooled by the primary airflow.

Mahle's innovation is in the creation of additional apertures in the central part of the vent between the shaft and blades in front of the rotor bearing housing. The primary airflow causes negative pressure between the vent and the bearings, by way of which a secondary flow of fresh cool air is pulled through the vent apertures via the bearing housing. The bearing temperature is thus reduced which can extend the lifespan of a motor or alternator by 50 %. The non-symmetrical arrangement of the apertures along the rim of the vent prevents acoustic interference, thus reducing the noise produced by the vent.

#### Innovators:

Vanja Pahor Kos, PhD, Darjo Pavšič, Mitja Berce

#### Company:

MAHLE Letrika, Proizvodnja električne in elektronske opreme za motorna vozila, d. o. o. Polje 15 SI-5290 Šempeter pri Gorici T: +386 5 339 30 00 www.letrika.mahle.com







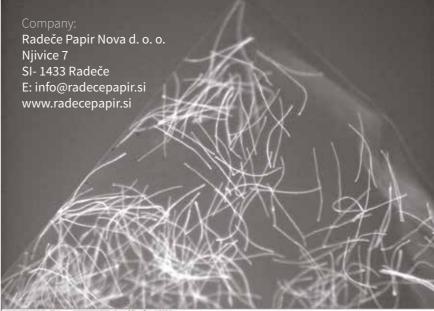
# Radeče Papir Nova d. o. o. New flourescent security protection in security paper

This innovation pertains to the production of special papers used in security printing of high-value documents, such as securities, banknotes and identity documents. Security printing aims to prevent the possibility of forgery, tampering or counterfeiting, thus the use of special paper is essential in the realisation of this objective.

Radeče Papir Nova has used near-infrared dyes and pigments in dying the protective fibres within the paper pulp, as well as in the printing of protective filaments and other additives used in the manufacture of special papers.

Meeting and exceeding the requirements and expectations of its customers, the security elements developed by Radeče Papir Nova provides effective anti-forgery protection in the banknotes and high-value documents that we all use in our everyday lives.

Innovators: Barbara Sušin, Kristina Bašnec



VSC0000 USER, Natasa, VSC0000/RS, Sexial Number 60717 10:04:59 01/02/2017 Lights-Spot 400 535 (0), Longavs-059, Mag=11.55 Auto Exposure (Integration-2020a, Brio 999), Brightness-00, Gamma-On, Draged width=28.05 m



VSC0000 USER, Hotosa, VSC0000/HS, Serial Number 60717 18:1544 61/02/2017 Lights-Spot 445-570 (0), Longaros-715, Mag=14-38 Auto Fusioner (Balegastion-Solins, Ikin-995), Brightese-60, Garonau-On, Imaged width=22-53 mm

VSC0000 USER, Natava, VSC0000JRS, Serial Normber 60717 09:29:27 01/03/2017 Lights-Spot 445-570 (0), Longaros:603, Mag=15.7 Auto Exposure (Integration:S50m, Fri: 90%), Brightness:40, Gamma-Da, Imaged with: 20.04 mm

# SILVER AWARD Roto Group d. o. o. Sea kajak Buran 488

With its excellent capacity, stability, speed and multifunctionality, the innovative Roto Buran 488 sea kayak is an excellent craft. Its size and shape allows easy entry and exit making it suitable for older kayakers and the disabled. The special design of the forward hull ensures that taller and larger kayakers are more comfortable. Another novelty of this craft is the multifunctional attachment at the stern of the kayak, which can be used for mounting a discharge valve or a rudder to maintain direction in windy conditions or choppy waters. The Buran 488 can be manufactured from partly recycled materials and can be fully recycled at the end of its lifespan.

Innovators: Suzana Flisar, Matjaž Pavlinjek





Company: Roto Group d. o. o. Gorička cesta 150, Černelavci SI-9000 Murska Sobota T: +386 2 52 52 151 www.roto-group.eu

# Sastela d. o. o. IT Pharma d. o. o. **Fast and Simple Way to Order Cakes**

Sastela detected a need among its customers for a simple way to order custom-baked cakes. Together with IT Pharma, it developed a terminal for the quick, simple and safe ordering of cakes, which can then be collected from shopping centres. The facility provides the consumer with information on the cakes they may chose from and their respective price.

In every TUŠ shopping centre and supermarket in Slovenia, customers can choose from 200 different combinations of shapes, flavours, fillings, toppings, decorations and inscriptions, and can collect their custom-made cake in just two days.

Sastela is using this innovative solution to expand its cake business from the Pomurje region of northeastern Slovenia, and is now rolling it out across the entire country.

Innovators: Tanja Šalamon, Borut Babič





# SIJ Metal Ravne d. o. o. Ravne na Koroškem SITHERM S630 R

The new SITHERM S360 R is a tool steel intended for extreme high temperature applications, such as the production of extrusion and forging dies, as well as pressure casting inserts for non-ferrous metals and alloys.

In comparison with other classic tool steels from the SITHERM range, the S360 R contains a higher carbon content and alloy additives (Ni, Cr, Mo), which further intensifies its high tensile strength and give it improved impact toughness and excellent hardenability. Even in extreme temperatures, S360 R manages to retain its functional properties better than similar steels, a feat enabled by its high purity, fine microstructure, homogeneity and loosening ability.

Due to its higher output temperature post hardening, SITHERM S360 R can be used in the manufacture of tools with a wide range of hardness - between 44 and 56 HRC - while still retaining excellent resilience and impact toughness. Compared to other SITHERM steels, S360 R has improved thermal conductivity which enables short-cycle thermomechanical treatment (hot stamping).

SITHERM S360 R is the latest example of the application of company's expertise in the production of high and supreme quality tool steels, which has made SIJ Metal Ravne a leading manufacturer and a trusted name in the market.

#### Innovators:

Andrej Vrečič, Darja Oblak, MSc, Simon Leskovec, Miran Kadiš, MSc, Gregor Herkovič, Sašo Mačič, Urnaut Borut

#### Company:

SIJ Metal Ravne d. o. o. Ravne na Koroškem Koroška cesta 14 SI-2390 Ravne na Koroškem E: info@metalravne.com sij.metalravne.com





Splošna bolnišnica Slovenj Gradec / General Hospital Slovenj Gradec "Implementing Telemedicine For Higher Quality of Life and Healthier Society" and "EXODIAB - For the Integrated Treatment of Diabetic Patient"

CEZAR Telehealth, which operates within the Slovenj Gradec General Hospital in northern Slovenia, has introduced two innovative healthcare services for the remote electronic monitoring of patients with heart disease and diabetes. These services have greatly changed the work of medical teams who actively and continuously co-operate with patients during their self-medication at home. CEZAR is now offering the novel services it has elaborated to other medical institutions in Slovenia and Europe. Further to it innovations, CEZAR is today developing new programmes and services which shall enable the monitoring and provision of telemedicine to patients with other chronic diseases and conditions, such as arterial hypertension, post-stroke and post-heart attack, as well as the clinically obese etc.

#### Innovators:

Cirila Slemenik Pušnik, MD, Head Physician, Metka Epšek Lenart, MD, Stanislav Pušnik, MD, MSc, Drago Rudel, PhD and Zdravko Balorda, PhD (MKS d.o.o.), Maja Rakuša (DMS), Sandi Ogrizek





#### Organisation:

Splošna bolnišnica Slovenj Gradec / General Hospital Slovenj Gradec Gosposvetska cesta 1 SI-2380 Slovenj Gradec E: info@sb-sg.si www.sb-sg.si

# Steklarna Hrastnik d. o. o. Application of Three Different Technologies for the Production of Glass Products on Single Furnace

IThrough a relatively small investment, and employing three different technologies within a single furnace, Steklarna Hrastnik has managed to increase production capacity by 60 %. This innovation, a novelty in the glass industry, has reduced NOx emissions and reduced energy consumption per a kilogram of molten glass, while the quality of the glass products being manufactured is fully maintained.

Steklarna Hrastnik actively follows and continuously analyses market trends with the intention of responding dynamically to detected opportunities and requirements. This innovation is a fundamental building block in the future orientation of the company as well as its entry into the demanding markets of luxury and special glasses, including glass vessels for the cosmetics and perfume industries.

#### Innovators:

Robert Gaal, Radovan Krneta, Pero Ereiz, Jože Kumar, Vlado Kršlin, Matija Jeršin, Enes Rakovič, Mateja Koritnik, Jaša Polutnik, Srečko Medvešek, Roman Tušek, MSc







# Stork, d. o. o. Natural Ice Cream STORK

Passionately dedicated to offering its customers a healthy rich-tasting dessert, full of natural ingredients, Stork has developed and patented a procedure for manufacturing a healthy alternative to industrially produced ice-cream.

Stork's high-quality ice creams with added fruit or fruit pulp and natural fruit sugars are today delighting consumers across Slovenia and abroad.

Innovator: Aleksander Šikar



Company:

Stork, d. o. o. Cesta k Tamu 11 SI-2000 Maribor E: info@stork-ice.eu www.stork-ice.eu

# TPV d. o. o. Innovative Automated Guided Vehicle Optimatik 160

TPV conceived the innovative Optimatik 160 - a versatile automated guided platform - in conjunction with its development partner IKU. A mere 160 mm in height, the Optinatik 160 is lower than the wheels of standard AGVs and thus considerably reduces manipulation costs as it is able to operate without rework. Indeed, with a width of 420mm it is also eminently suitable for transporting standard EURO pallets without rework. The efficiency, reliability, and high performance of the Optimatik 160 has provided TPV an important competitive advantage in the market for AGVs.

#### Innovators:

Janez Sluga, Robert Simčič,

Aleksander Brence, Aleš Ucman, Matej Mikolič, Matjaž Sotler, Dominik Rajšelj, MSc (IKU d.o.o.)

#### Company: TPV d. o. o. Kandijska cesta 60, SI-8000 Novo mesto E: tpv@tpv.si www.tpv.si







# We congratulate all innovation award winners



# **Innovation promotion and support programme**

The Chamber of Commerce and Industry of Slovenia (CCIS) developed the Innovative Slovenia Programme to promote as well as nurture and support the entire process of innovation – from conception to implementation. Through a variety of activities we aim to foster the spirit of innovation in Slovenia, and thereby contribute to success in foreign markets.

The Innovative Slovenia Programme encompasses the following activities:

- INFORMING on topics relevant to an enterprise's performance and development is an ongoing activity of the CCIS.
- PROMOTION of innovations and innovative companies through modern communication channels.
- **TRAINING COURSES**. The CCIS organises some ten training courses for business annually, and these provide participants with a broad range of skills and knowledge, from strictly specialised to general. The lecturers are eminent professionals from Slovenia and abroad.
- CONFERENCES focused on delivering enterprises information on emerging and future technologies and, in order to promote development collaboration, the engagement of enterprise with companies and organisations in Slovenia and abroad.
- CONNECTING various publics in order that they may exchange information, experience and best practice, is one of the key roles of the CCIS. As a meeting point the CCIS connects Slovenian enterprises with research institutions and other companies both locally and internationally.
- **INTERNATIONALISATION** of development, initiating delegations and facilitating meetings aimed at the promotion of collaboration and the initiation of common development projects.
- COUNSELLING AND MENTORSHIP, providing companies advice and assistance in various fields and areas
  pertaining to innovation.
- **PROMOTING YOUTH** and developing the creative and innovative potentials of young people start-up weekends, support to students in the development of innovative food products (the EU's Ecotrophelia competition) as well as collaboration with the Start:up Slovenia initiative.
- AWARDING INNOVATIVITY. The CCIS has the country's longest tradition in awarding innovation.

# Chamber of Commerce and Industry of Slovenia Innovation Awards

# The CCIS Innovation Awards have a long tradition, and this year we celebrate the 21st edition. New innovative and improved products and production technologies are awarded, as are innovations pertaining to organisation, service provision and marketing.

Selection of the CCIS Innovation Award winners is a two-step process. Firstly, the regional chambers invite entries from local innovators, and their projects and innovations are assessed according to a set of criteria which are applied both regionally and thence nationally. All innovations that meet the application criteria are considered, whilst the best within the individual competitions receive gold, silver and bronze awards.

The outstanding innovations from Slovenia's thirteen regions are then considered and judged in the context of a national competition for the country's best innovation, at which it is far from easy to attain a golden award. All entries must meet three main criteria pertaining to originality, viability and contribution to the clean environment as well as eight sub-criteria.

The innovation:

- has to be original, new or significantly better from that which is currently available on the market.
- must be attributable and, accordingly, adequately protected (e.g. under a patent, brand, trademark or secret know-how).
- should be commercially viable and thus capable of enjoying market success (i.e. recognised by customers, consumers or users).
- should have a wider non-financial influence (on social environment: the innovation brings benefits to the society, non-financial benefits of innovation for the company).
- promotes or upgrades the innovation culture in the participating organisation and makes a positive economic or social contribution locally, regionally, nationally or internationally.
- is a positive development in the context of environmental issues.



# Slovenian National Innovation Awards 2017

Published by: Chamber of Commerce and Industry of Slovenia Project manager: Simona Rataj, MSc. Ljubljana, september 2017



REPUBLIC OF SLOVENIA MINISTRY OF ECONOMIC DEVELOPMENT AND TECHNOLOGY



Chamber of Commerce and Industry of Slovenia

