

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

NO	MAIN RESEARCHER	UNIVERSITIES	NAME OF INVENTIONS	DESCRIPTION OF INVENTIONS	TECHNOLOGY CATEGORY	INVENTION STATUS
1	Dr Ahmad Humaizi bin Hilmi	Universiti Malaysia Perlis (UniMAP)	Explosive Pressing and Compaction Machine : Able to Press / Compact Specimen Beyond 10,000 ton	Explosive pressing is an apparatus that can press beyond the capability of Ultimate Testing Machine (UTM). Typical UTM has limited press ability to only 300 ton. The working space is around 800 mm x 500 mm. Explosive pressing can press until 100,000 ton. This opens up opportunity for producing better strength materials. For defence industry, spall liner for armor tanks needed heavy press to produce a spall liner. For academics study, beyond 300 ton cannot be achievable previously. This provides opportunities for more postgraduate degrees. The research is done with collaboration from UniMAP and Blast Research Team from UPNM.	Machinery and Equipment	READY TO COMMERCIALISED
2	MOHD NASIR BIN MAT SAAD	Universiti Malaysia Perlis (UniMAP)	HERBAL SOAP CUTTING MACHINE	The main objective is to establish and build an automatic cutting system for cutting herbal soap. Due to manual cutting, this company cannot accommodate with	Machinery and Equipment	READY TO COMMERCIALISED

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				<p>their increasing market demand. This automatic cutting system is designed to cut the soap according to the size as requested by the company. The soap is cut to the size specified automatically and then moves to the next stage. There are three types of cutting mechanisms which are in x, y and z directions which operate simultaneously. This machine can save the cutting time up to 83% as compared to the traditional manual method.</p>		
3	Mohamad Shaiful Ashrul bin Ishak	Universiti Malaysia Perlis (UniMAP)	WASTE PLASTIC TO REAL FUEL CONVERSION SYSTEM	<p>The rapid pyrolyser system of capable to convert waste plastic to real fuel for energy generation. The system capable to process up to 50 kg plastic bottle in single pass. The system will begin at a feeding section, following through pyrolysis process parts and fuel reactor, before proceeding to distillation as well as storage and offloading. Several main positive products and by-product from the conversion</p>	Machinery and Equipment	READY TO COMMERCIALISED

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				will be generated such as gasoline, diesel, fuel oil, and surplus electricity, respectively, by percentage, in which diesel is expected to be around 70%.		
4	Muhamad Farizuan Bin Rosli	Universiti Malaysia Perlis (UniMAP)	Small Scale UHT Boiler for Dairy Industries.	<p>Dadih is a traditional fermented milk popular among people of west Sumatra and Malaysia. Dadih is made of cow's milk such as yoghurt that is enclosed in a former bamboo until it is cool for eaten. The method used in small and medium enterprise (SME) at Malaysia for making dadih is by traditional method and semiautomated boiler. These existing methods facing major problem, which is, shorten in the life span of the milk products. Another problem is most of the small industries are not able to purchase those highly quality and high cost ultra-high temperature (UHT) boiler. The purpose of the research is to design and fabricate a small-scale UHT boiler for SME, which satisfied the design concept. Furthermore,</p>	Machinery and Equipment; Food-tech and Agriculture Technology	PATENT/READY TO COMMERCIALISED

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				<p>the research started with the product design engineering flow to produce or analyze the steps by using software and calculations. To improve and strengthen the design concept several journal and patent search regarding UHT boilers are researched and analyzed. Therefore, this project will propose a model of the UHT boiler, which is low cost yet serving all the needed purpose for any SME owners.</p>		
5	Associate Professor Dr. Midhat Nabil Ahmad Salimi	Universiti Malaysia Perlis (UniMAP)	Carbon Dioxide (CO ₂) Capture Using The Downflow Gas Contactor (DGC) Reactor	<p>Downflow Gas Contactor (DGC) unit is a very efficient system for selective capture and sequestration of carbon Dioxide from air (reduction from 360 ppm to 10 ppm or less), thereby effecting a reduction of environmental pollution and effects of global warming caused by CO₂. The captured CO₂ can be recovered and used as required.</p>	Machinery and Equipment	PATENT/READY TO COMMERCIALISED
6	NORASHIKEN BINTI OTHMAN	Universiti Malaysia Perlis (UniMAP)	SMART STIRRER FOR LIQUID PASTE MIXTURES	<p>Our services offer expert advisor to consult innovative machine design base on company requirements, human factors & ergonomics</p>	Machinery and Equipment	READY TO COMMERCIALISED

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				<p>considerations by implementing modern technologies. Our Research team has undergone many projects focusing on two (2) types of expertise : Machineries Design & Technologies Ergonomics & Safety at Workplace</p>		
7	Ts. Badrul Azmi Abd. Holed	Universiti Malaysia Perlis (UniMAP)	DRIED CHILI SEEDS SEPARATOR	<p>This is a newly design and innovative machine to assist the work of processing and production of chili sauce and called as Dried Chilli Seeds Separator. The design and structure of the machine are using aluminium, lightweight and it is easy for dismantling to facilitate maintenance and transportation. The machine was designed specifically for chilli sauce manufacturers and producers or suppliers of dried chilli for retail and wholesale sales in supermarkets or grocery stores. The separation process begins with the cutting process of dried chilli using two sets of rotating blades. After the cutting process, the chilli will fall into the vibrating sifter, which will</p>	Machinery and Equipment	PROTOTYPE

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				<p>separate the seeds from the chilli skin, and lastly, both skin and seeds will move down towards different directions into the provided containers. The machine has a great ability to separate seeds from dried chilli at 40-45 kg per hour. Furthermore, the use of this machine will shorten the boiling process up to 60% and the grinding process enormously reduced to 50%.</p>		
8	Dr Mohd Shukor Bin Salleh	UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTeM)	: LIGHT WEIGHT FRONT LOWER CONTROL ARM FOR C-SEGMENT PASSENGER CAR	<p>Increasing demand for energy efficient vehicles to reduce fuel consumption is a significant challenge for automotive industry. Aluminum alloy, which has high yield strength, excellent weight-to-stiffness ratio and high recyclability has become an ideal candidate to replace steel for vehicle weight reduction. In this work, the new design of front lower control arm has achieved 30% weight reduction compared to conventional steel product with its fatigue lifecycle is above 396,000 cycles during physical</p>	Machinery and Equipment	PROTOTYPE

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				validation test. Therefore, the new design of front lower control arm using aluminum alloy had passed the fatigue lifecycle criteria which suitable for C-segment passenger car.		
9	Noreffendy Tamaldin, Ajat sudrajat, Ahmad Kamal Mat Yamin, Mohd Idain Fahmy Rosely	UNIVERSITI TEKNIKAL MALAYSIA MELAKA (UTeM)	HYBRID HHO GENERATOR FOR IMPORVED ENGINE PERFORMANCE & EMISSION	HHO Generator to supplement existing combustion engine intended to improve fuel efficiency and reduce exhaust emission	Machinery and Equipment	PROTOTYPE
10	MUHAMAD AZANI YAHYA	UNIVERSITI PERTAHANAN NASIONAL MALAYSIA (UPNM)	ROAD SAFETY REFLECTORS	Traffic baton being used widely, especially in road works and traffic diversion. It gives a sign in the form of direction and warn vehicles of your presence to stay safe on the roads. Multi setting includes the bright LED™s inside the baton gives the warning sign, especially for street procession and outdoor events. The existing traffic baton is uncomforted to hold because the size is big, heavy and having the storage problem. The Personal Traffic Baton being produced to give an	Machinery and Equipment	READY TO COMMERCIALISED

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				<p>opportunity for user to own and store in the small compartment. The foldable concept being adopted. Therefore, the size is small and lightweight. It is easy to handle, durable, splash proof and cheap. It also can transform to warning sign and being used while breakdown of the vehicle.</p>		
11	Mohd Khairi Abu Husain	Universiti Teknologi Malaysia (UTM)	Efficient Load Coefficient Method for Structural Reliability Assessment of Ageing Offshore Platforms	<p>Offshore industry recognizes that the structural degradation issues is one of the important elements of lifetime extension of offshore platforms. Currently, the load coefficient values used to determine the maximum limit wave height (HRSR) at limiting RSR of platform structures in Malaysian waters are based on the oil and gas operator standard practice approach. PETRONAS uses a load coefficient value in the range of 1.7 to 2.0. Nonetheless, a coefficient value of 1.7 is recommended by Metocean Department of PETRONAS in the absence of more exact value as a conservative</p>	Machinery and Equipment	READY TO COMMERCIALISED

INNOVATION PITCH & BUSINESS MATCHING (IPBM 2019) - MACHINERY AND EQUIPMENT

				<p>approach. Recently, a new approach called an Efficient Load Coefficient Method has been developed and offered the following benefits: (1) An efficient method to determine the load coefficient value for reliability analysis of fixed offshore structures, and (2) Not required for on-site offshore wave measurement that will contribute to time spent and high-cost impact. Application of this approach offer adequate structural safety of offshore structures especially waves in-deck and air insufficient and optimum and economical design for all types of offshore structures.</p>		
--	--	--	--	--	--	--