

Press release

Laser as a vector in advanced manufacturing

- ▶▶ *IK4-TEKNIKER will present its solution for the integration of laser-based applications, Laser for Manufacturing Lab, at the coming International Machine Tool Biennial (BIEMH) trade fair*
- ▶▶ *Laser for Manufacturing Lab provides a 360º vision of laser technology and its application*

(Eibar, Basque Country. 18 May, 2018).- Advanced manufacturing is progressing side-by-side with other strategic sectors for technological development such as biomedicine, renewable energies and the automotive industry, sectors that demand components with high added value and the capacity to provide high-precision services that meet strict safety standards.

IK4-TEKNIKER has developed an overall laser-based solution applied to advanced manufacturing with a comprehensive approach to meet these demands in manufacturing processes, design and manufacture of equipment and components, laser additive manufacturing (LAM) and inspection and metrology.

This initiative has given rise to Laser for Manufacturing Lab, an offer focused on providing overall solutions based on comprehensive specialised knowledge in the field.

IK4-TEKNIKER will present Laser for Manufacturing Lab with a series of demonstrations at the coming International Machine Tool Biennial (BIEMH) trade fair to be held from 28 May to 1 June in pavilion 1, stand C22.

Laser for Manufacturing Lab is a means to reach out more effectively to the industry with the aim of satisfying the specific needs of advanced production through the potential of laser-based technology, since it provides a 360º view of laser technology and its application.

This initiative constitutes a joint and coordinated offer of all the solutions developed in IK4-TEKNIKER in this field and that can be classified as follows:

MATERIAL PROCESSING

MACRO

TECHNIQUES	APPLICATIONS			
	CUTTING	METAL WELDING	TEMPERING / ANNEALING	LASER CLADDING
	GAS-ASSISTED MELTING REMOTE Component deburring Precision micro-cutting 3D cutting	CONDUCTION "KEYHOLE" REMOTE Identical alloys Dissimilar materials	FIXED OPTICS OSCILLATING BEAM Hardening Annealing Softening Assistance in stock removal & shaping processes	POWDER CLADDING WIRE CLADDING Surface reinforcement Mould recovery & repair Coatings
TECHNIQUES	APPLICATIONS			
	CLEANSING / STRIPPING	POLYMER WELDING	JOINING DISSIMILAR MATERIALS	
	COMBUSTION ABLATION SHOCK WAVES Paint, and coating stripping etc. Removing rust, grease, contaminating substances, etc.	QUASI-SIMULTANEOUS (SCANNER) CONTOUR SIMULTANEOUS Similar thermoplastic materials Dissimilar thermoplastic materials	QUASI-SIMULTANEOUS (SCANNER) CONTOUR SIMULTANEOUS Thermoplastic-metal Dissimilar metals	

MICRO PROCESSES

TECHNIQUES	APPLICATIONS			
	TEXTURISING	MICRO-MACHINING	MICRO-DRILLING	MARKING
	QUASI-SIMULTANEOUS (SCANNER) Improving tribological properties Replication Super hydrophobic surfaces	QUASI-SIMULTANEOUS (SCANNER) Micro-moulds Tool profiling Chip breaker	SINGLE PULSE PERCUSSION TREPPANNING HELICAL Filters Valves	QUASI-SIMULTANEOUS (SCANNER) Decoration Traceability

DEVICES / EQUIPMENT

SIMULATION Optical simulation Thermo-mechanical simulation (FEM)	DESIGN & MANUFACTURE OF OPTOMECHANICAL COMPONENTS Beam modification Nozzles Mountings Heads	INTEGRATING SOURCES IN COMPLETE SOLUTIONS	COMPLETE HIGH PRODUCTIVITY SOLUTIONS	PROCESS MONITORING & CONTROL SYSTEMS
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ADDITIVE MANUFACTURING

PROCESSES	
POWDER LMD WIRE LMD	LASER NOZZLES/HEADS FOR POWDER AND WIRE LMD COMPLETE SOLUTIONS FOR THE ADDITIVE MANUFACTURING OF LARGE STRUCTURES BY LMD HYBRIDISATION OF LMD PROCESSES WITH OTHER MANUFACTURING TECHNOLOGIES

INSPECTION AND MEASUREMENT

LARGE-SCALE TECHNOLOGIES (TRACKER, INTERFEROMETRY, TRACER)	SHORT RANGE TECHNOLOGIES (TRIANGULATION, STRUCTURED LIGHT, CONFOCAL, TIME OF FLIGHT)	LASER SYSTEMS FOR PROCESS MONITORING AND CONTROL
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OTHERS

CONSULTANCY INDUSTRIAL IMPLEMENTATION OF LASER SYSTEMS DIAGNOSIS OF LASER BEAMS Characterisation Safety FINE-TUNING OF INDUSTRIAL PROCESSES	TRAINING COURSE ON "INDUSTRIAL LASER APPLICATIONS" SPECIFIC ON-DEMAND COURSES "HANDS-ON" TRAINING AT IK4-TEKNIKER OR AT CUSTOMER FACILITIES
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Concerning IK4-TEKNIKER

With more than 35 years of experience in applied technology research that has been transferred to companies, IK4-TEKNIKER has achieved a high degree of specialisation in four major areas (Advanced Manufacturing, Surface Engineering, Product Engineering and ICTs). This means that its cutting edge know-how has been made available to customers to meet their requirements.

Further information

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