



Press release

EPHJ-EPMT-SMT Trade Show: Exhibitors' Grand Prix

A list of 6 nominees driving innovation!

The jury of experts of the 2019 EPHJ-EPMT-SMT Trade Fair has selected six highly innovative projects for the Exhibitors' Grand Prix to be voted on by the exhibitors to select the winner.

Geneva, 28 May 2019. Levitation of machines, the green properties of supercritical CO₂, machine learning algorithms, new hope for the 16 million people suffering from retinal vein occlusion, a machine that is mightier than a spark and a new fine-layer treatment process are just a few of the spectacular innovations proposed by the six nominees for the 2019 Exhibitors' Grand Prix selected by the Jury for the EPHJ-EPMT-SMT Trade Show for the watchmaking, jewellery, and micro- and medical technologies sectors.

These innovations, deriving from know-how of the following six Swiss or foreign companies, will be presented at the 18th edition of the largest trade fair in Switzerland: Beckhoff, Dense Fluid Degreasing, Ellistat, FEMTOprint, GF Machining Solutions and SY&SE. Be it in the fields of watchmaking and jewellery, medical technology, micro-technologies or all these sectors combined, such technological progress captures the essence of this outstanding international high-precision universe.

The nominees and their innovative projects are as follows:

BECKHOFF New Automation Technology

XPlanar: transport by levitation

XPlanar, a magnetic levitation conveyor system, is a floating transportation device with 6 degrees of freedom. The XPlanar system combines design freedom for the magnetic plates with the possibility of positioning the Planar Movers in 6 dimensions. In addition, the Movers move at speeds of up to 4 m/s, with 2 g of acceleration, without jolting or contact and allow repeat positioning with a precision of 50 µm in two dimensions, without any noise or abrasion. This system significantly simplifies the design of machines and installations.

DENSE FLUID DEGREASING SA

DFD-MD 30.1, an innovative and environmentally friendly cleaning machine that uses supercritical CO₂

Dense Fluid Degreasing designs, manufactures and markets innovative ecological processes for the cleaning, degreasing and decontamination of mechanical parts and textiles using supercritical CO₂ as an apolar solvent for thoroughly degreasing parts without water or solvents and with no impact on the

environment. Electricity consumption can be reduced by up to half using this process. For medical devices, the process economises on water and reduces cleaning time: a single treatment lasting 30 to 120 minutes can replace repeated washing with water alone.

ELLISTAT

Elliseting to improve manufacturing quality

Elliseting makes it possible to automatically adjust machine tools and reduce the reject rate by 10 thanks to the integration of a machine-learning algorithm. It makes it possible to calculate directly the right correction factors to be applied to obtain a part that is right first time and therefore reduces the length of time the adjustment cycle usually takes for complex parts. ELLISETTING also allows machine tools to be set up based on measurement of the surface of the part.

FEMTOprint

SPOT-RVC is a high-performance tool for dealing with retinal vein occlusion (RVO)

The objective of the Safe Puncture Optimized Tool (SPOT) is to safely inject a drug to dissolve retinal vein clots without tissue damage using a high-precision miniaturised medical tool developed in partnership with EPFL and the Jules-Gonin Ophthalmic Hospital in Lausanne.

GF Machining Solutions International SA

SPARK TRACK, a technological innovation for wire-electrical discharge cutting machines

It controls the energy density on the cutting wire in real time thereby reducing energy consumption when a discharge takes place. Real-time display of the discharge position for the part and 3D representation in colour of the power density (area affected by the heat) of the cut-line (industry 4.0: traceability). Reliable detection of the discharge location is now possible!

SY&SE

AdHera is a process that allows fine films to be bonded to ceramics or metals

Fine films have become an important stage in the design of mechanical systems. This innovation should make it possible to avoid delamination and to preserve the physico-chemical properties of the films. Based on the energies and migrations of ions at the interface, this technology increases the bonding of fine films thanks to a low-temperature process.

The exhibitors at the EPHJ-EPMT-SMT Trade Show have until 17 June to select the winner of the Exhibitors' Grand Prix that will be awarded at the evening event on 18 June 2019 at the Palexpo convention centre in Geneva.

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