



Technology Request

Diffusion	International
Title	Sustainable new products and technologies for extension/substitution of current product portfolio searched
Reference	50999
International Ref.	TRDE20160902001
Deadline	22-09-2017
Abstract	<p>A small German manufacturer of recordable optical storage media is looking for new products and/or technologies to extend or substitute its product portfolio. The current production line consists of plastic injection moulding followed by diverse coating and sputtering processes with fully automated handling. Industrial partners willing to transfer their sustainable technology fitting to the existing environment and to staff skills are sought for commercial agreement with technical assistance.</p>

Description

The German SME is an experienced and highly automated manufacturer of optical storage media. Decreasing markets of CD-R and DVD-R induce strong activities to acquire new business fields. In the best case the existing equipment can be used for the new prod. processes. If necessary, however, the complete substitution of the equipment will be possible.

At any rate, a completely new portfolio of sustainable products/technologies has to be established by utilising possibly a maximum of current process equipment and staff skills, preferably:

? injection moulding, metallic coating (sputtering) or spin coating with lacquer of small plastic parts from diverse fields

? one or combinations of the above under cleanroom/incr. purity requirements;

by utilising only the environment and parts of the staff skills, this can be:

production/assembly of

? small medically devices (under clean conditions),

? small pharmaceutical devices (clean cond.),

? small micro-/nano-technical devices (clean cond.),

? microfluidic devices (clean cond.),

? any other type of devices under normal environment.

The current production line and environment consists of:

Cleanrooms (ISO 14644-1)

- 13,9 m² (ISO=8, US Fed 100.000)

- 16,1 m² (dito)

- 7,7 m² (ISO=7, US Fed 10.000)

- 60,3 m² (ISO=6, US Fed 1.000)

- 41,8 m² (dito)

These rooms are not in use currently and have separate access and access control.

- 100 m² (ISO=6, US Fed 1.000)

This space is currently in use for the production of optical storage media. In case of substitution of the equipment it will be available too.

Equipment

- 5 automated production lines for handling and processing of small and flat substrates

- 3 automated precision injection moulding machines per line, adaptable for use with other small parts (clamping force 600 kN, max. tool installation dimension 200mm, opening stroke 75mm, stroke volume max. 48 cm³, max. mass pressure 1364 bar, max. injection speed 600 mm/s)

- one 5-cup dye coating module per line for spin coating of substrates using solutions

- one magnetron based metallizer per line for sputtering silver

(magnetron power supply 15 kW, sputtering rate (Ag) appr. 12 nm/kWs)

- one downstream station per line for spinning lacquers and for UV-curing of lacquer layers

- optical surface scanners for inline quality control

? chemical processing area for preparation and analysis of solutions containing organic solvents (methods in use for analyse: UV-VIS spectrometry, gas chromatography; GC with mass spectrometer detector)

? electroplating (Ni-based) environment

? air-conditioning (conditioned fresh air) up to 25.000 m³/h per room, total max. 48.000m³/h

? fresh air heating partially by heat recovery

? cooling capacity: 800 kW

? exhausting incl. explosive-exhausting up to 18.000 m³/h with solvent-combustion via flue gas post-combustion (RNV)

? power supply via medium voltage installation (2 transformer with 1.600 kVA)

? compressed air, oil-free (class 0), dew point <-20 °C,

network pressure appr. 6,5 ? 7,5 bar

delivery quantity appr. 15 ? 20 m³/min

? vacuum, network pressure 50 ? 70 mbar,

? nitrogen, network pressure 10 bar

? argon, network pressure 10 bar

? cooling water 18 ? 22 °C, cooling capacity installed 860 kW

? natural gas supply power consumption installed 1 MW for

heating and RNV

Staff skills

? currently 14 empl. (incl. managing director)

? skilled workers for comm. & industrial electronics

? electrical & chemical technicians

? mechatronics engineer

? physicist (PhD)

Additional staff can be activated, if necessary.

Location in a commercial park with short distance to intern. airport and to an important research centre area.

Industrial partners, willing to transfer their sustainable technology, which fits to the existing equipment,

environment and skills, are sought for commercial agreement with technical assistance.

Start-ups as well as innovation networks still missing a production partner are welcome..

Innovative Aspects and Main offer advantages	
Current Stage of Development	Available for demonstration
Development phase comments	The product and its technology should be at least available for demonstration. Readiness to market or being already on the market would be welcome, too.
Industrial Property Rights comments	Any possibly existing kind of IPR should be transferred or licensed, respectively.
Type of partner sought	The technology proposed for transfer should be, in best case, executable with the current or a modified version of the equipment of the SME. However, a complete substitution of the equipment is not excluded. In any case the staff of the technology provider (or a third party) should be able to transfer the technology and the necessary knowhow to the SME.
Specific area of activity of the partner	The searched partner should be an established industrial company or a start-up with a product/technology fitting to the SME's environment, which has good marketing prospects and for which the partner has currently no resources or not enough resources for production and the intention to involve an external partner to solve this problem. The cooperation should be started with a commercial agreement with technical assistance. Any other types and questions of partnerships (financing, shares, joint venture etc.) should be discussed at a later stage.
Task to be performed	SME 11-50,SME <10,>500 MNE,251-500,SME 51-250,>500