... riding the wave

Kyma: a success story of technology transfer and strategic partnership

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Kyma is the only industrial company worldwide whose unique business is the realization of Insertion Devices for Light Sources

Kyma is a true INDUSTRIAL company, but with the knowledge available on IDs at major SCIENTIFIC Institutions
Advanced Low Emittance Rings Technology - ALERT 2016
Trieste, September 14th - 16th, 2016

- A full range of IDs
  - Pure Permanent Magnet IDs
    - LPU, LHU, Apple-II, Apple-III, Delta, Compact
  - Elliptically Polarizing Undulators (world record!)
  - Hybrid Undulators and Wigglers
  - In-vacuum Undulators and Wigglers

- Additional products
  - Mechanical support structures
  - Magnet Structures
  - Top quality permanent magnet blocks
  - Benches for magnet measurements

- Services
  - Design studies and consultancy
  - Design and simulation of magnetic structures
  - Design of mechanical structures and components
  - Magnetic measurements and characterization
  - Refurbishment of obsolete IDs

Much more and much less than just IDs
A peculiar approach

- Kyma Srl was established by Elettra Sincrotrone Trieste through an open European tender issued by the end of 2006 with the purpose to find potential suppliers/partners for realizing the undulators for the FERMI@Elettra project
  - Potential partners were required to set up a new company to that purpose, together with Elettra
  - Elettra had to hold 51% of the shares of the NewCo
  - Industrial partners participated to initial capital with liquid capital

- Elettra contributed transferring to the NewCo its know-how on undulators – intangible asset
The company and the Partners

- Kyma Srl
  - 27%
  - 100%

- Kyma Tehnologija d.o.o.
  - 22%

- Elettra Sincrotrone Trieste
  - 51%

- cosylab

- WIKA
  - Part of your business

- EUROMISURE
Kyma & Kyma Tehnologija locations
The Sežana Lab
### Kyma ID summary table

<table>
<thead>
<tr>
<th>ID type</th>
<th>Short name</th>
<th># of units</th>
<th>Status</th>
</tr>
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<tbody>
<tr>
<td>Laser Heater Undulators</td>
<td>LHU</td>
<td>1</td>
<td>Operation</td>
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<tr>
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<td>Commissioning</td>
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<td>Linearly Polarizing Undulators</td>
<td>LPU</td>
<td>9</td>
<td>Operation</td>
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<tr>
<td>Elliptically Polarizing Undulators – Apple-II</td>
<td>EPU</td>
<td>24</td>
<td>Operation</td>
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<tr>
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<td>3</td>
<td>Realization</td>
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<tr>
<td>Short-Period Linearly Polarizing Undulator</td>
<td>SP-LPU</td>
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<td>Operation</td>
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<tr>
<td>In-Vacuum Undulator (with BASC)</td>
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<td>Operation</td>
</tr>
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<td>In-Vacuum Hybrid Undulators (with RI)</td>
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<td>Hybrid Wiggler</td>
<td>HW</td>
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<td>Operation</td>
</tr>
<tr>
<td>Permanent Magnet Phase Shifters (30 @ Kyma / 30 @ BASC)</td>
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<td>60</td>
<td>Delivered</td>
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<td>Variable-Phase Compact Undulators</td>
<td>CCU</td>
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<td>Operation</td>
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<tr>
<td></td>
<td></td>
<td>2</td>
<td>Realization</td>
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</table>
EPUs @ NSLS-II – Brookhaven National Lab.
EPU_MPI @ PLS-II - Pohang Accelerator Lab.
A worldwide network of cooperation on IDs

Looking for more partnerships and collaborations …
Fixed-gap, variable-phase, CCU

CCUs in operation @ CHESS
Some keys for further discussions

- Partners fully committed to the development of the business (not on short-term profit)
- Operative partnerships (scientific & industrial)
- Full Customer-oriented approach
- Extreme focus on project and process management
- Clear positioning at the invention/innovation boundary
- Very close relationship both with the pure industrial and pure research environments
- Continual improvement of products and processes
Thank you for your attention

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