Welcome to the FOURTH INTERNATIONAL ACTION WORKSHOP on Innovations and Challenges for Air Quality Control Sensors 25 - 26 February 2016, Vienna, Austria

Anton Köck
MCL Materials Center Leoben Forschung GmbH
Materials Center Leoben Forschung GmbH

Integrated Materials, Processing and Product Engineering

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A-8700 Leoben
www.mcl.at

Funded by:
MCL at a glance

History

- Founded 1999 MCL is one of the leading competence centres in material science in Austria with ~ 155 employees. The COMET K2 Centre for „Integrated Research in Materials, Processing and Product Engineering“ focuses on the full materials value chain in applications
- In March 2012 the research area „Materials for Microelectronics“ was established:
  - Nanosensors and multi-sensor systems
  - CMOS integration of nanotechnology based sensor components
  - 3D-System Integration, Packaging and Reliability
  - Materials characterization from nano- to microscale.
MCL at a glance
Shareholders

Vienna University of Technology
Austrian Academy of Sciences
Municipality of Leoben
University of Leoben
Graz University of Technology

MCL at a glance
Shareholders

Joanneum Research Forschungsgesellschaft mbH

MCL at a glance
Shareholders

Folien
MCL at a glance

Where is Leoben?
# MCL at a glance

### Core competences of MCL GmbH

<table>
<thead>
<tr>
<th>Metallic Alloys technology</th>
<th>Tool technology</th>
<th>Microelectronics</th>
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</thead>
<tbody>
<tr>
<td><img src="image1" alt="Metallic Alloys technology" /></td>
<td><img src="image2" alt="Tool technology" /></td>
<td><img src="image3" alt="Microelectronics" /></td>
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<thead>
<tr>
<th>Material Analytics</th>
<th>Simulation – Materials &amp; processes</th>
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<tbody>
<tr>
<td><img src="image4" alt="Material Analytics" /></td>
<td><img src="image5" alt="Simulation – Materials &amp; processes" /></td>
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</table>

**Focus**
- Innovative materials, processes & components
- Design & reliability
- Productivity
- Material-, energy & cost efficiency
- Quality
MCL & Air Quality Monitoring
Thin film & nanowire sensors & nanoparticles

CMOS integrated!

- SnO$_2$-thin films
- SnO$_2$-NWs (n-type)
- CuO-NWs (p-type)
- ZnO-NWs (n-type)

Target gases:
CO, H$_2$, H$_2$S, O$_3$
CO$_2$, VOCs, NO$_2$
in dry and humid air
MSP-Projekt

MSP - Multi Sensor Platform for Smart Building Management

Information and Communication Technologies ICT
FP7-ICT-2013-10

GA no: 611887

Project No: 611887
3D-integrated Multi Sensor Systems

- Development of 3D-integrated demonstrators, processes and technologies for stacking all components and devices. The key building block is the platform chip that can be used as the basic “LEGO™” building block for 3D-integration to MSP demonstrator systems.
## AGENDA

### 25 February 2016 - Thursday

<table>
<thead>
<tr>
<th>Time</th>
<th>Session/Activity</th>
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</thead>
<tbody>
<tr>
<td>09:00 - 18:00</td>
<td>REGISTRATION</td>
</tr>
<tr>
<td>09:30 - 10:00</td>
<td>Welcome Address</td>
</tr>
<tr>
<td>10:00 - 11:00</td>
<td>Session 1: Plenary Session</td>
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<tr>
<td>11:00 - 11:30</td>
<td>Coffee Break</td>
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<tr>
<td>11:30 - 13:00</td>
<td>Session 2: Oral Presentations</td>
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<tr>
<td>13:00 - 14:30</td>
<td>Lunch</td>
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<tr>
<td>14:30 - 16:00</td>
<td>Session 3: Oral Presentations</td>
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<tr>
<td>16:00 - 16:30</td>
<td>Coffee Break</td>
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<tr>
<td>16:30 - 18:00</td>
<td>Session 4: Oral Presentations</td>
</tr>
<tr>
<td>20:00 - 23:00</td>
<td>Social Dinner</td>
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### 26 February 2016 - Friday

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>09:00 - 16:00</td>
<td>REGISTRATION</td>
</tr>
<tr>
<td>09:00 - 11:00</td>
<td>Session 5: Oral Presentations</td>
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<tr>
<td>11:00 - 11:30</td>
<td>Coffee Break</td>
</tr>
<tr>
<td>11:30 - 13:00</td>
<td>Session 6: Oral Presentations</td>
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<tr>
<td>13:00 - 14:30</td>
<td>Lunch</td>
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<tr>
<td>14:30 - 15:30</td>
<td>Session 7: Poster Presentations</td>
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<tr>
<td>15:30 - 17:00</td>
<td>Session 8: Keynote Presentations</td>
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<td>17:00</td>
<td>Closure of Meeting</td>
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</tbody>
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COST Workshop Social Dinner

- Bierheuriger Gangl, Alser Straße 4/Hof 1, 1090 Wien
COST Workshop Social Dinner

- Bierheuriger Gangl, Alser Straße 4/Hof 1, 1090 Wien