Funding your Industry 4.0 project

Financial aid for research, development and innovation
Part 1 – Cases
Part 1 – Cases (all enterprises)

Use of **artificial intelligence** to automate manufacturing process.

**Deep learning**: advanced technologies to turn data into information.

**Flexible automation** (computer vision, )

Can be supported through R&D aid scheme, also for large enterprises
Part 1 – Cases (SMEs)

Implementation of new production or delivery method:

advanced customization platform (design by order); reduction of manufacturing delay through 3D printing; Zero defect manufacturing, etc...

Implementation of a new organisational method:

supply chain optimisation (integration / digitalisation); real-time factory (bottom-up production reschedule).

Can be supported through process and organisational innovation aid scheme, only for SMEs.
Part 1 – Cases (SMEs)

**Main activities enabled by Industry 4.0 technologies ➔ covered by process and organizational innovation aid scheme**

<table>
<thead>
<tr>
<th>Production</th>
<th>Inbound / Outbound logistics</th>
<th>Maintenance and Services</th>
<th>Planning / Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Advanced process control</td>
<td>Track and trace products</td>
<td>Remote maintenance</td>
<td>3D product model</td>
</tr>
<tr>
<td>Smart tools and machines</td>
<td>Just-in-time logistics</td>
<td>Augmented reality</td>
<td>Collaborative engineering</td>
</tr>
<tr>
<td>Smart packaging</td>
<td>Supplier collaboration</td>
<td>Predictive maintenance</td>
<td>Forecasting methods</td>
</tr>
</tbody>
</table>
Part 1 – Summary

Funding / subsidies available for all enterprises.

R&D required for large enterprises.

Any implementation of a new production process or organizational method can be supported for SMEs.
Part 1 – SME Definition

So when does an enterprise qualify as an SME?

According to the European SME definition, it is required to *agglomerate company data of all linked and partner enterprises* (including companies held through holding companies or through physical persons).

<table>
<thead>
<tr>
<th>Company category</th>
<th>Staff headcount</th>
<th>Turnover</th>
<th>or</th>
<th>Balance sheet total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medium-sized</td>
<td>&lt; 250</td>
<td>≤ € 50 m</td>
<td>≤ € 43 m</td>
<td></td>
</tr>
<tr>
<td>Small</td>
<td>&lt; 50</td>
<td>≤ € 10 m</td>
<td>≤ € 10 m</td>
<td></td>
</tr>
<tr>
<td>Micro</td>
<td>&lt; 10</td>
<td>≤ € 2 m</td>
<td>≤ € 2 m</td>
<td></td>
</tr>
</tbody>
</table>
Part 2 – How does it work?

- **Subsidies** to encourage companies to carry out R&D and innovation activities
- Individual assessment of each single project
- The **innovation fund** budget is adapted to the needs of the projects
- Luxinnovation provides support services to help companies meeting the admission criteria

**Law of 17 May 2017 for the promotion of research, development and innovation**
Part 2 - Main Criteria to benefit from a financial aid

Co-financing Capacity
- Equity/free cash flow
- Capital Increase
- Bank Loans

Economic impact
- Substance
- Exploitation of assets resulting from the project activities

Innovation
- Competitive advantage on the market
- New or improved product, process, service
  - New marketing method/
  - New organizational method

Incentive Effect
- Application before start of works
  - Δ project

Scheme specific criteria
- Technological challenges (R&D)
- Risk of failure (IOS)
- Scoping of R&D activities (feasibility)
Part 2 - Main Criteria to benefit from a financial aid (2)

Company / People

Financial situation

Technology

IP

Business model / Market

Project specific issues
Part 2 - Decision Process

- **Submission** of the application at the Ministry of Economy – Research and Innovation Department
- **Opinion** of the State aid commission (in most cases)
- **Funding decision**
- **Payment of the grant** based on real costs associated to the RDI activity

- **Luxinnovation** support for the application
- **Individual instruction** for each R&D project
- **Funding agreement signed**

**State aid applications must be submitted before initiating the implementation of the project!**
Part 2 – Applicable aid schemes

<table>
<thead>
<tr>
<th>Maximum aid intensities (as a % of eligible costs)</th>
<th>Large Enterprise</th>
<th>Medium Ent</th>
<th>Small Ent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process and organisational innovation</td>
<td>≤ 15%</td>
<td>≤ 50%</td>
<td>≤ 50%</td>
</tr>
<tr>
<td>Feasibility Studies</td>
<td>≤ 50%</td>
<td>≤ 60%</td>
<td>≤ 70%</td>
</tr>
<tr>
<td>Feasibility Studies</td>
<td>≤ 50%</td>
<td>≤ 60%</td>
<td>≤ 70%</td>
</tr>
<tr>
<td>Research and Development</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Experimental development</td>
<td>Collaboration bonus: + max 15% in case of an effective collaboration with a maximum of 80%</td>
<td>≤ 25%</td>
<td>≤ 35%</td>
</tr>
<tr>
<td>Industrial research</td>
<td>≤ 50%</td>
<td>≤ 60%</td>
<td>≤ 70%</td>
</tr>
</tbody>
</table>
# Part 3 - Public private R&D collaborations

## Cooperation between a company and a public research organization

<table>
<thead>
<tr>
<th></th>
<th>R&amp;D project</th>
<th>AFR PPP</th>
<th>Core PPP</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>beneficiary</strong></td>
<td>Company</td>
<td>PhD Student/Post Doc contracted by</td>
<td>Public research organisation in Luxembourg</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public research organization:</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- national;</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- foreign (on condition of cooperating with a Luxembourg based company)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Company authorised by the Ministry of Economy</td>
<td></td>
</tr>
<tr>
<td><strong>subsidy</strong></td>
<td>15% bonus on the R&amp;D budget of the company</td>
<td>Coverage of labour costs of the PhD Student/ Post Doc</td>
<td>Maximum grant 500k €</td>
</tr>
<tr>
<td><strong>deadlines</strong></td>
<td>continuously open</td>
<td>17th March and 1st September</td>
<td></td>
</tr>
</tbody>
</table>
Part 4 – European R&D collaborations

**Manu-Net**

Combining the power of a European Research, Development and Innovation initiative with the flexibility of national aid schemes.

Annual call for proposals.
Next call closes in **March 2018**.

Small project consortia with at least 2 SMEs from 2 different participating countries.
... added value partnership

Fit4X programmes
Collaborative RDI
Start-up

Company
Technology Roadmap

Market drivers
Business drivers

Products
Services

Technologies (RDI)

Resources
staff, funding, partners...

Value chain building
Collaboration
Partnerships
Networking

Robotics
Industry 4.0
Artificial Intelligence
Additive Manufacturing
High Performance Computing

Business Renewal

Internationalization

Funding

Cross-sectorial Flagship Projects

Technology missions
Member Catalogue
Web platform
Trade fairs
Events

Equity
National funding
European funding
Traditional finance
Thank you!

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