Leadership skills for KETs

Towards an agenda for 2020 and beyond

HIGH-TECH AND LEADERSHIP SKILLS FOR EUROPE CONFERENCE

Brussels, 26 January 2017

EUROPEAN COMMISSION, Executive Agency for Small and Medium-sized Enterprises (EASME)

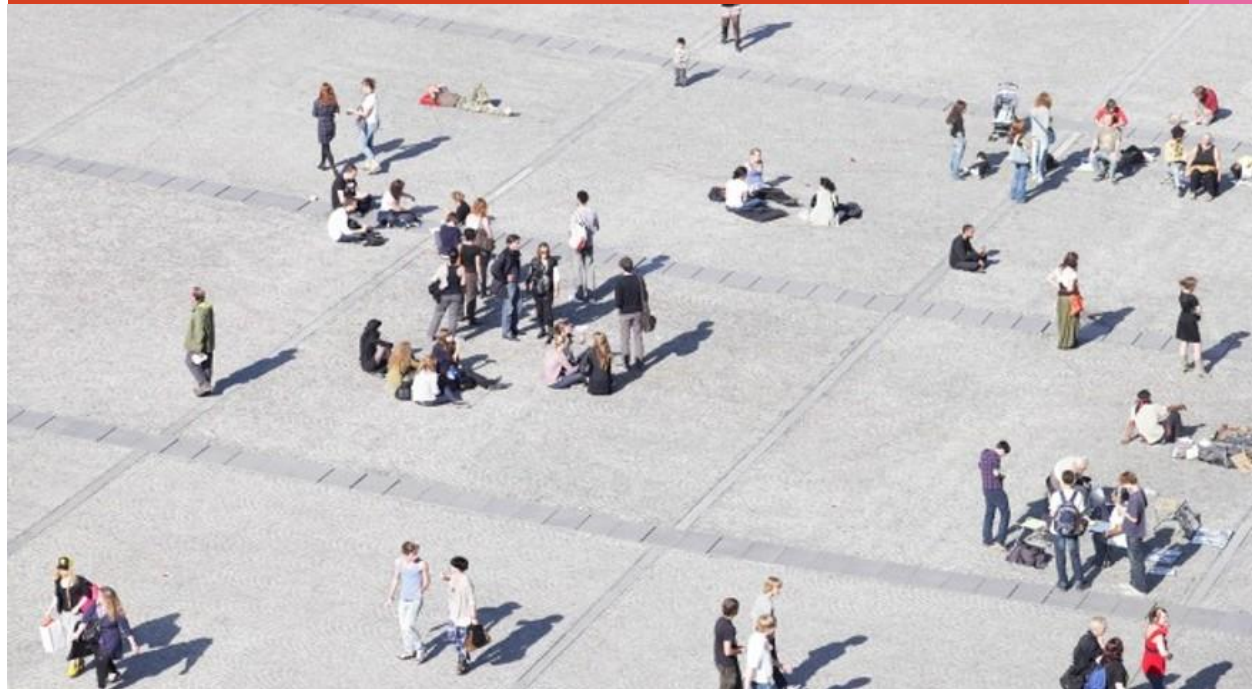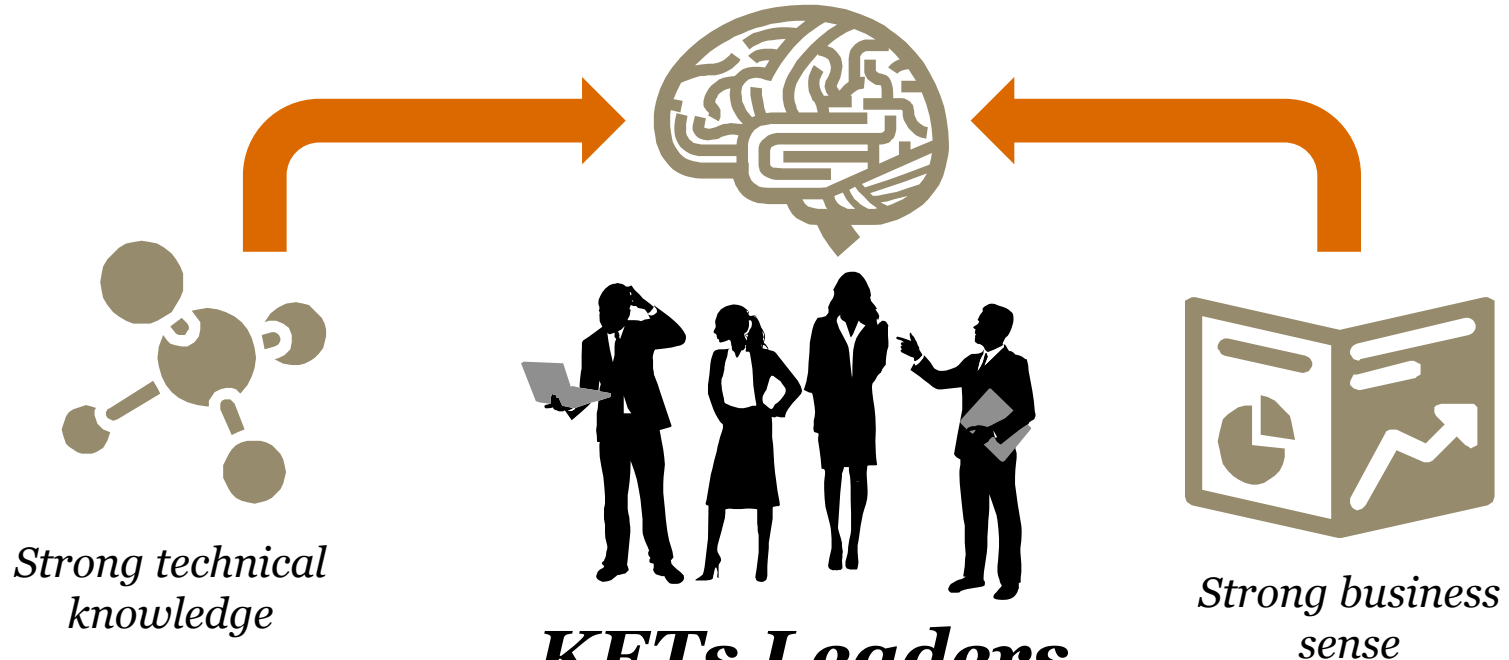*Directorate-General Internal Market, Industry, Entrepreneurship and SMEs (DG GROW)*

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1. Leadership skills for KETs: the essence
Key components

Strong technical
knowledge

Strategic vision, ability to
connect the unconnectable

Strong business
sense

KETs Leaders
Visionaries and innovators

Leaders of companies, business divisions, departments or
even teams -> innovation drivers within KETs
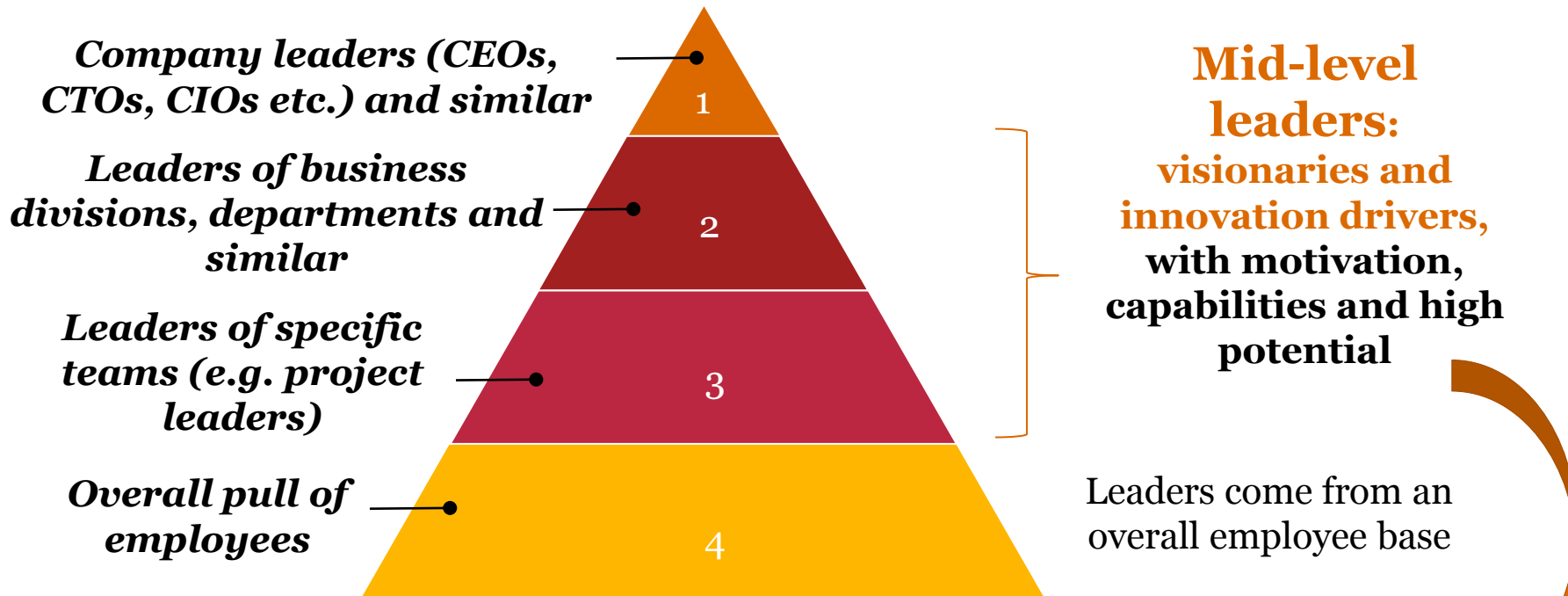
1 Technical	2 Quality, risk & safety	3 Management	4 Communica-tion	5 Innovation	6 Emotional intelligence

1. *Leadership skills for KETs: key challenges*

Leaders can be found at different levels:

Company leaders (CEOs, CTOs, CIOs etc.) and similar → **1**

Leaders of business divisions, departments and similar → **2**

Leaders of specific teams (e.g. project leaders) → **3**

Overall pull of employees → **4**

Mid-level leaders: **visionaries and innovation drivers,** **with motivation, capabilities and high potential**

Leaders come from an overall employee base

Key missing element: **combination** of technical, business and strategic skills **of mid-level leaders**

- New generation of leaders is needed, able to *connect previously unconnected fields; creating and serving new markets*

3. *Key directions for action*
New approaches for education and on-the-job training

Measures related to the educational processes before entering the job market

Measures related to advancing the workforce 'on the job'

Redesigning curricula to stimulate multidisciplinary orientation and entrepreneurial agility

Two distinctive but **interrelated** *directions for action*

Maximising the exposure of the workforce to relevant job experiences

What can be done to tackle the challenges?

4. Suggestions for future policies/initiatives

Stimulating technological and non-technological <u>multidisciplinarity</u> in education

Future policy actions/joint stakeholder initiatives need to address:

Training *entrepreneurial alertness*

Applying *challenge-driven* university model

Training *integration skills and management of collective problem solving*

Training *entrepreneurial adaptability*

Training *continuous experimentation and the ability to thrive on failures*

Embedding *non-technical courses in technical curricula*

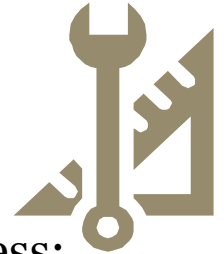Cultivating *technical multidisciplinarity in education* (T-shaped engineers)

4. Suggestions for future policies/initiatives

Stimulating technological and non-technological <u>multidisciplinarity</u> on the job

Future policy actions/joint stakeholder initiatives need to address:

Mobility between KETs* ('smart' team composition)

Mobility along the KETs value chain (e.g. by integrating research and production in one facility)

Mobility between KETs and application areas (e.g. partnering with companies from the application domain)

Mobility between academia and industry (creating open eco-systems where industry and academia can work together on specific projects)

Redesign of internal company processes (e.g. (semi-)autonomous teams; dedicated time for 'free-style' innovation etc.)

...

5. *Good practice examples*
Stimulating technological and non-technological multidisciplinarity in education

- **'Challenge-driven' university model**

    - replicates real-world situations in the classroom;

    - Students get challenges for which there are no established answers (**focus on questions rather than answers**)

'Engineering for People Design Challenge' :
inter-university design competition encouraging students to work in multidisciplinary teams, to address a real life and complex engineering challenge

More than 15,000 students since 2011

94% report improved skills in engineering design cycle

91% report improved creativity and team work skills

88% report improved communication skills

5. *Good practice examples*
Stimulating technological and non-technological multidisciplinarity on the job

Short description:

Providing higher education institutes and companies with access to the technology and applications of Industry 4.0. Includes facility networking, PLC programming, drive technology, sensor technology, safety technology, robotics, assembly, as well as value stream analysis and optimisation.

Coordinator:

Festo Didactic (privately funded), facilities in Germany, USA, Italy, China

Target group:

Industry, educational institutions

Relevance to leadership skills for KETs:

Focusing on advancing digital savviness in manufacturing workers; not explicitly targeted at executive and management level.

Thanks a lot for your attention!