Smart technology vs smarter people?

Giuseppe Salvia

Seminar at the
DEMAND Research Centre
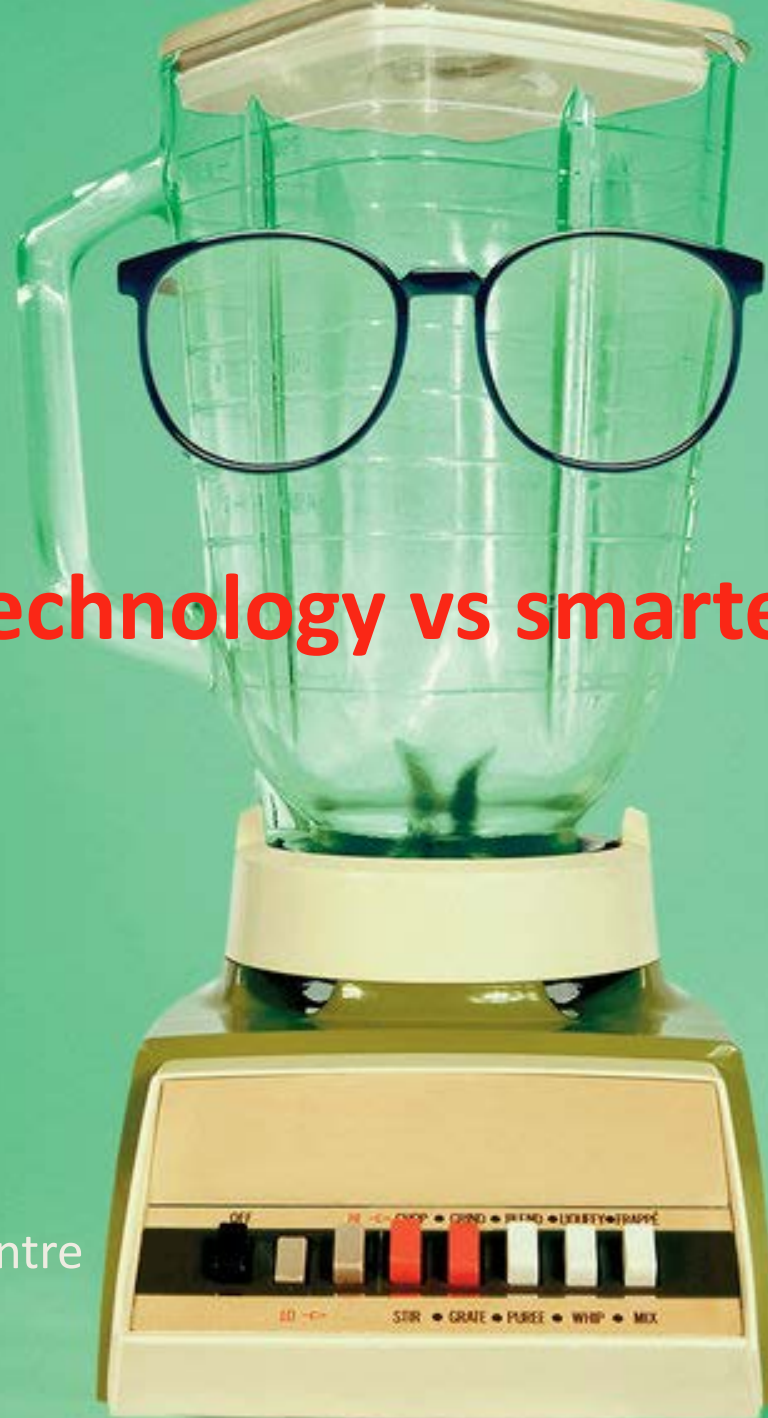14 December 2017
@SalviaGiuse

Illustration by Javier Jaén

Smart technologies:
What are they?

material arrangements embedded with sensing, computing, networking and actionable features

mobility

The Panacea of every evil apparently: The promises of more democratic, efficient and effective patterns of consumption and production

Any home can be a smart home

The SmartThings Starter Kit* has everything you need to create and monitor your own smart home in no time. Once you've set up your Starter Kit, SmartThings lets you connect with hundreds of compatible smart devices for limitless possibilities.

*Starter Kit includes: Hub, Motion Sensor, Power Outlet, Multi Sensor and Presence Sensor.

GET THE STARTER KIT NOW

OTHER RETAILERS

Explore our Products

Stay aware of changes in temperature and movement, find out when something unexpected happens, and teach your home to fit in with your daily routine. By connecting your SmartThings hub with our sensors and power outlet, you'll be able to create a smart home suited to you:

| **Starter Kit**	**Hub**	**Motion Sensor**	**Multi Sensor**	**Power Outlet**	**Presence Sensor**	**Moisture Sensor**
£199.00	£99.00				£24.00	
ADD TO BASKET	ADD TO BASKET	OUT OF STOCK	OUT OF STOCK	OUT OF STOCK	ADD TO BASKET	OUT OF STOCK
Find out more	Find out more	Find out more	Find out more	Find out more	Find out more	Find out more

All Tesla Cars Being Produced Now Have Full Self-Driving Hardware

The Tesla Team · 19 October 2016
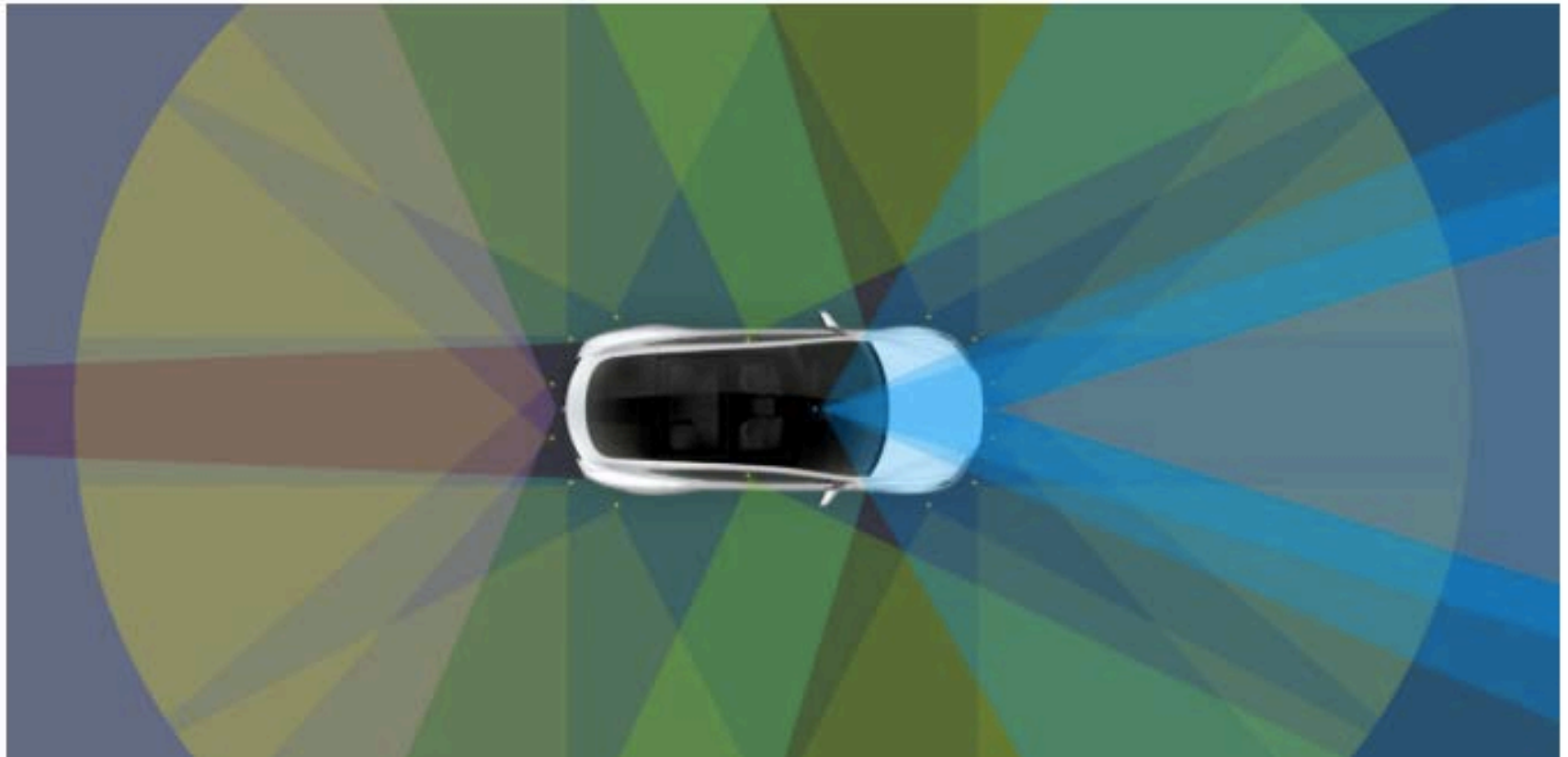
The hype cycle for emerging technologies

Source: Gartner (July 2016)
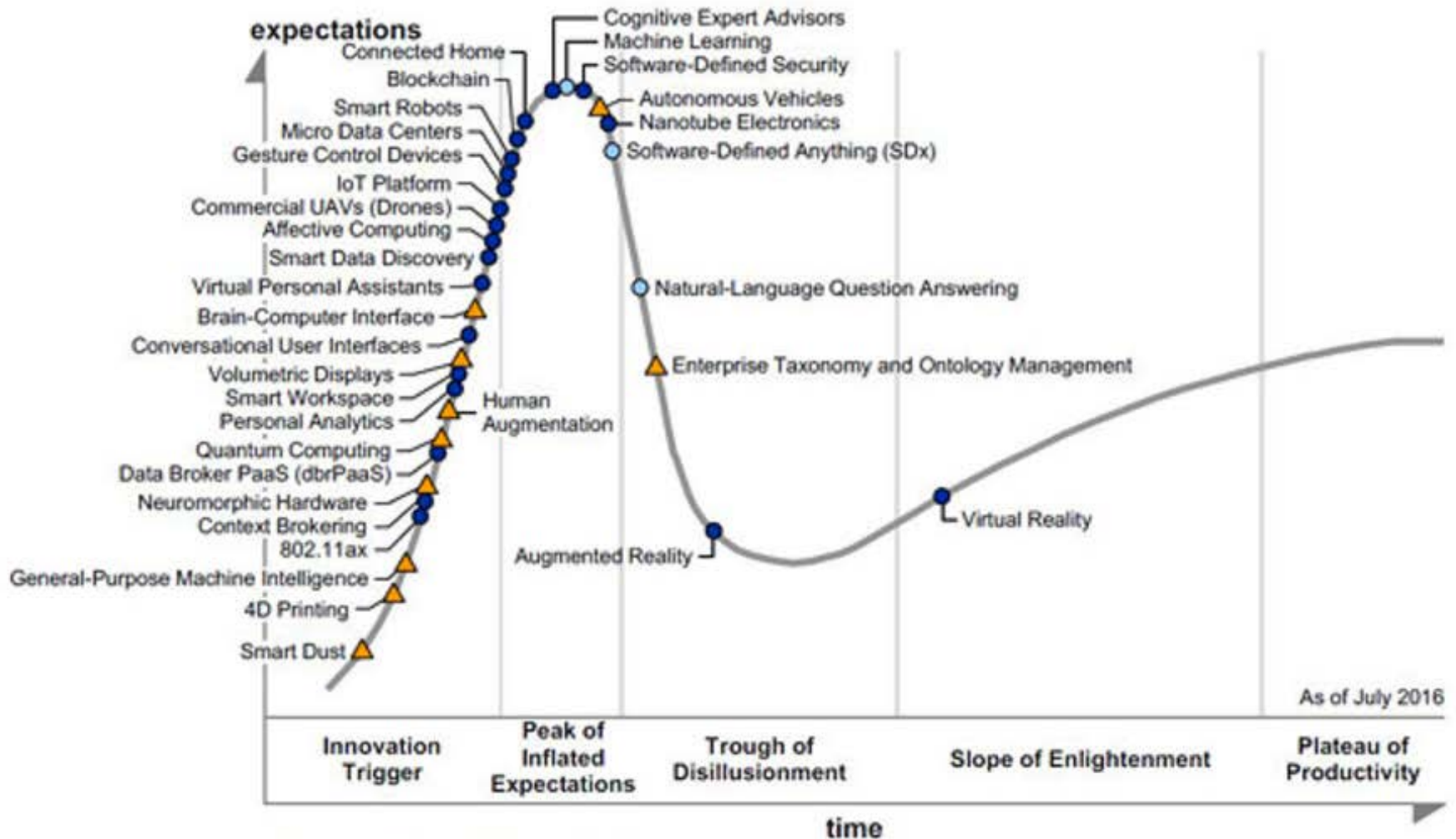
The second machine age
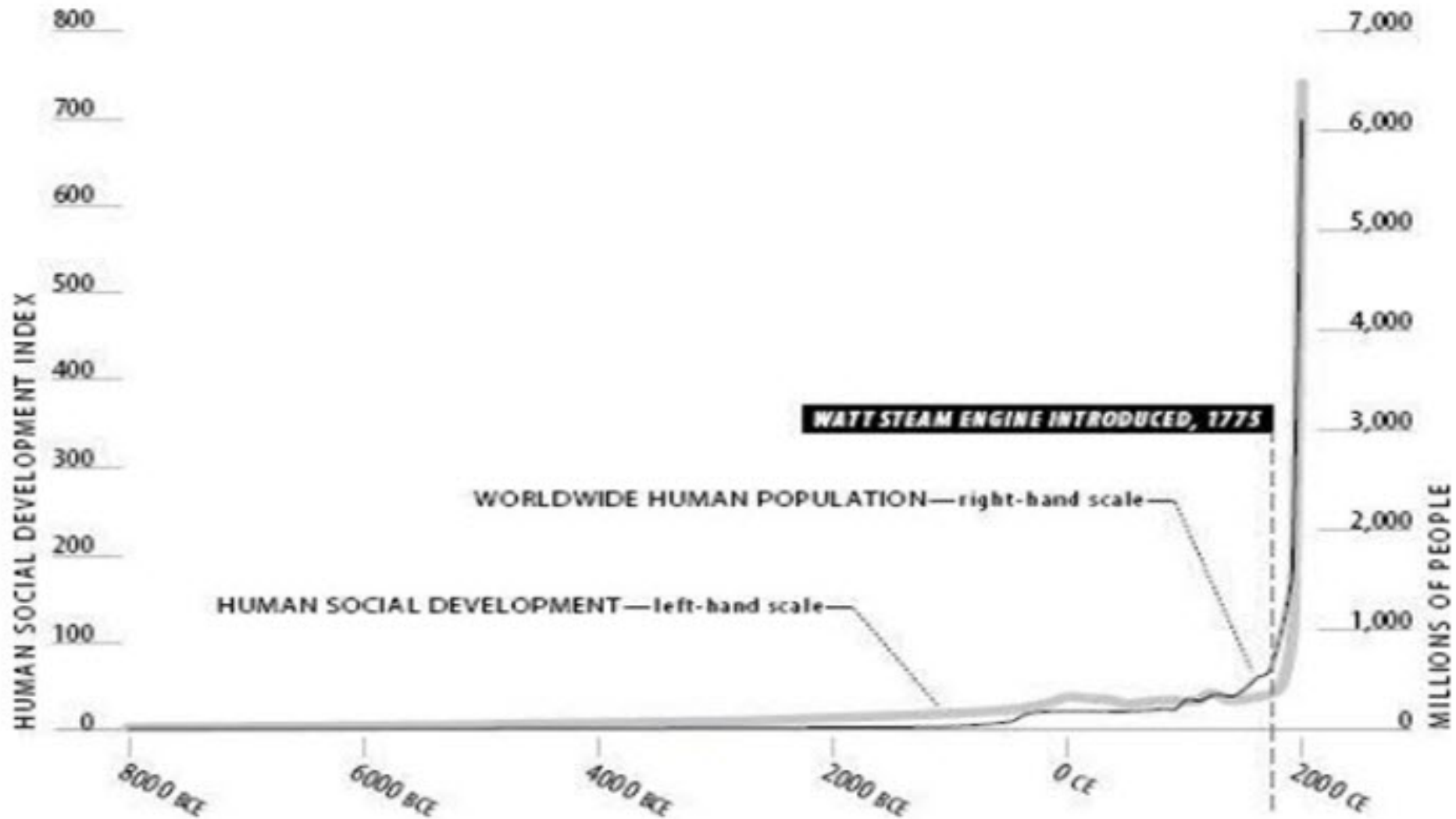
Source: Brynjolfsson and McAfee 2013

Non omne quod nitet aurum est

"loss of trust, violations of privacy,
 misuse of data, ambiguity of copyright,
 digital divide, identify theft, problems of control
 and of access to information
 and freedom of speech and expression"

van Den Hoven et al 2012:2

skills

(or 'ubiquitous deskilling'?)

smart

smart:

"**(II).** Senses relating to qualities of speed, intelligence, neatness, and similar qualities.

…

10. a

Clever, intelligent, knowledgeable, capable, a degree of intelligence, able to respond intelligently to differing situations, retort, astute, replying with (of an action) events; recognized by rules or as to be capable of some independent action; …."

Source: OED / Oxford English Dictionary

Distributed Competence

Watson & Shove 2008
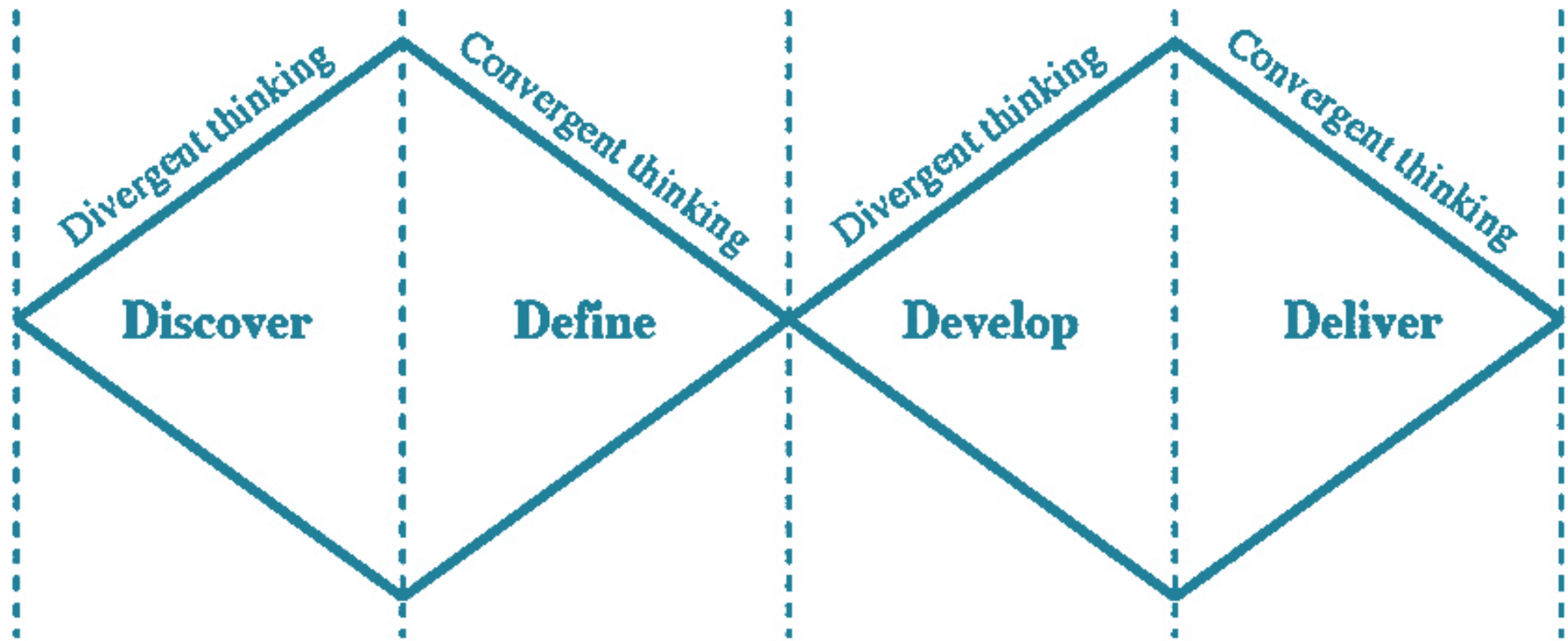
Which competence/s?

With what or whom?

Why?

Technological development:

1. **Tools**, powered by human muscles
2. **Machines**, controlled by humans
3. **Automated**, self-monitoring and self-regulating.

Tondl 1974, ment. in Leder 1990

Divergent thinking   Convergent thinking   Divergent thinking   Convergent thinking

Discover   **Define**   **Develop**   **Deliver**

Design Thinking

Next century skills

- The lifelong learning
- 21st century skills
- Skills for competitiveness

Hilton 2008; The Partnership for 21st Century Skills, 2008; Sahin 2009; World Economic Forum 2016

WORLD
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FORUM

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IMPROVING THE STATE
OF THE WORLD

Top 10 skills

in 2020

1. Complex Problem Solving
2. Critical Thinking
3. Creativity
4. People Management
5. Coordinating with Others
6. Emotional Intelligence
7. Judgment and Decision Making
8. Service Orientation
9. Negotiation
10. Cognitive Flexibility

in 2015

1. Complex Problem Solving
2. Coordinating with Others
3. People Management
4. Critical Thinking
5. Negotiation
6. Quality Control
7. Service Orientation
8. Judgment and Decision Making
9. Active Listening
10. Creativity

Free from what or whom?

A matter of expectations...
and resulting paradox
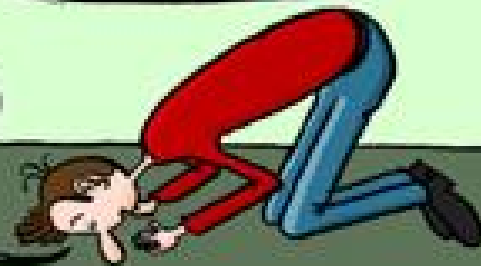
smart:

"**(I).** Painful, uncomfortable; sharp, severe, intense.

1.

a.   Of an instrument, […]: inflicting or causing pain; biting, stinging; (of a weapon) sharp and cutting."

Autonomic machines also *"greatly magnify the consequences of any error humans do in specifying goals"*

Kephart and Chess 2003:48

Possible reactions

1. Adjusting and overriding

2. Adapting to the change

3. Cyclic process

"Blissful enslavement"

Sheridan and Parasuraman, 2005

A gym?
Not quite…

Whose skills?

Why demand?

1. Increased embedded and in use energy demand
2. Multi-tasking escalation
3. Reshaped expectations and meanings
4. Diderot effect
5. Inefficient inability

Conclusion

1. Reshaped/ing practices
2. Expectations of comfort and convenience
3. Co-adaptation and power balance
4. Risk of escalation
5. Need to prioritise

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Thanks!

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Illustration by Javier Jaén

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