

Digitising Manufacturing in the G20, Berlin, March 17th, 2017
Artificial Intelligence for Industry 4.0



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An Industry Revolution: Industry 4.0



The manufacturing sector moves from a laborious mass production model to

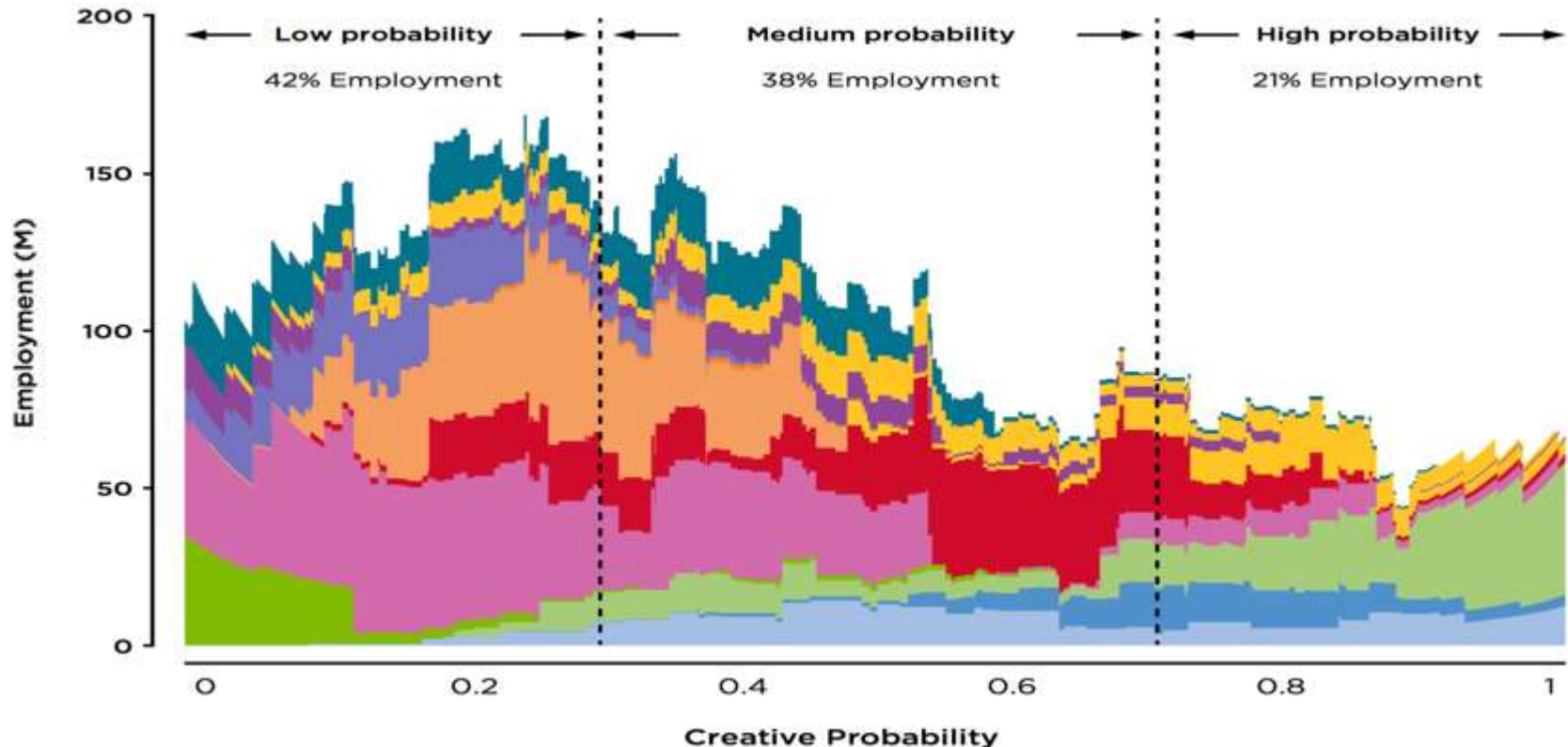
- an integrated, seamless automated factory
- digitalizing the entire product value chain,
- optimizing production processes
- the integration of networked communication systems.

The Future Revolution: AI for Industry



- humans and machines that work “hand-in-hand”
- precise, technical skills of machines + cognitive skills of people
- machine automation + creativity and imagination of people
- Human-aware industry 4.0
 - from automation to collaboration
 - from robots to “co-bots”, from workers to co-workers
 - from automated planning/acting to human aware planning/acting ...

Let AI transform a Threat into an Opportunity!



[Bakhshi, Frey, Osborne: Creativity vs. Robots: The Creative Economy and the Future of Employment]

By 2025 \$9 trillion reduction in employment costs thanks to AI-enabled automation of knowledge work, \$8 trillion in manufacturing

[Bank of America Merrill Lynch, Robot Revolution – Global Robot & AI Primer]

A New Concept of Factory, New Types of Jobs



The most intelligent machine is the one that

- not necessarily replace humans but ...
- lets humans perform a more creative, intelligent job and ...
- lets the factory become more productive, safe, pleasant, enjoyable .

AI is the discipline that can do this (yes, we can!):

- human aware planning and acting
- deep + continuous learning from data and human behaviors
- intelligent Interaction (e.g. natural language based, speech based)
- inclusive technology, AI for all, AI for good & wealth redistribution

Thanks for your Attention