



What is the Future for the Engineering Career?

Presented by:

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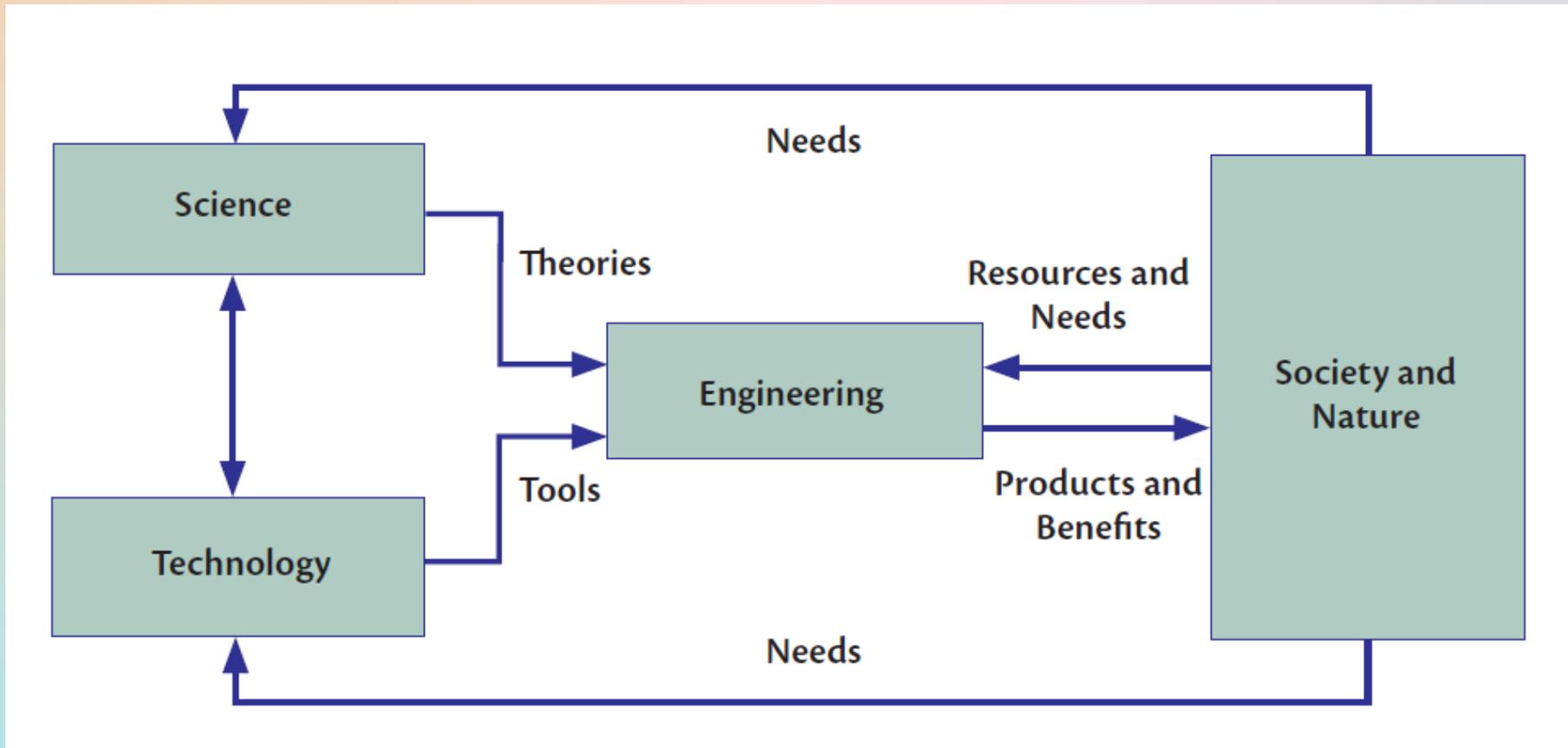
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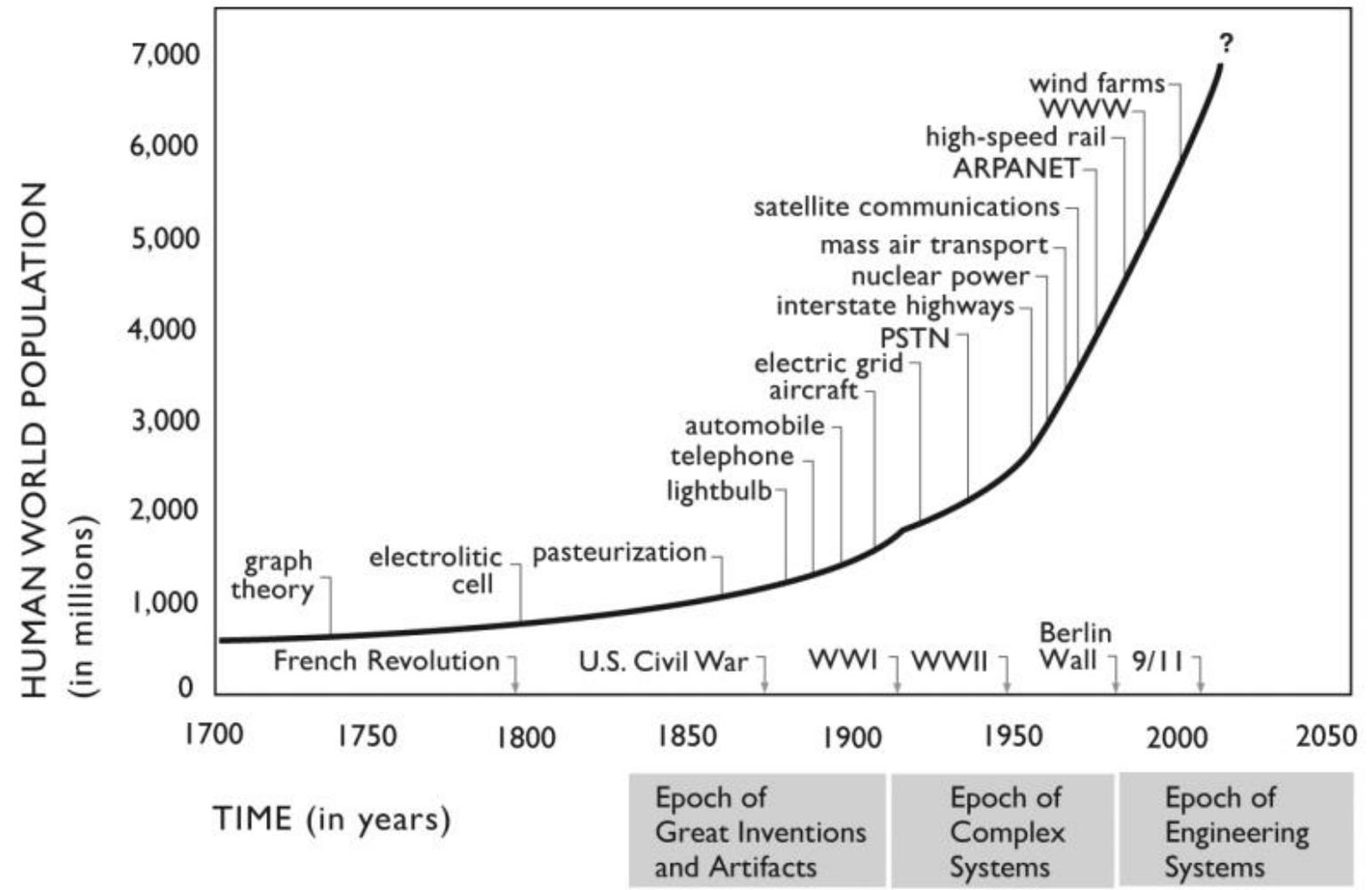


What is an Engineer? What do we do?

- Engineering is the field or discipline, practice, profession and art that relates to the development, acquisition and application of technical, scientific and mathematical knowledge about the understanding, design, development, invention, innovation and use of materials, machines, structures, systems and processes for specific purposes.

(UNESCO 2010)





World ' s population had grown to 2.52 billion, and inventions were " growing " along with the population "

Figure 1.1
Human population growth and important technological and political milestones (1700–2050).

Engineering Systems: Meeting Human Needs in a Complex Technological World
Book by Christopher L. Magee



What is the Future for the Engineering Career?

The Future is very bright.

We are moving from inventions

To

Systems



Engineers can be proud of the inventions that have made life much easier for humans

>>>>> inventions now is part of systems.





late 18th Century
0.7 billion world population

19th Century
1 billion WP

20th Century
2.5 billion WP

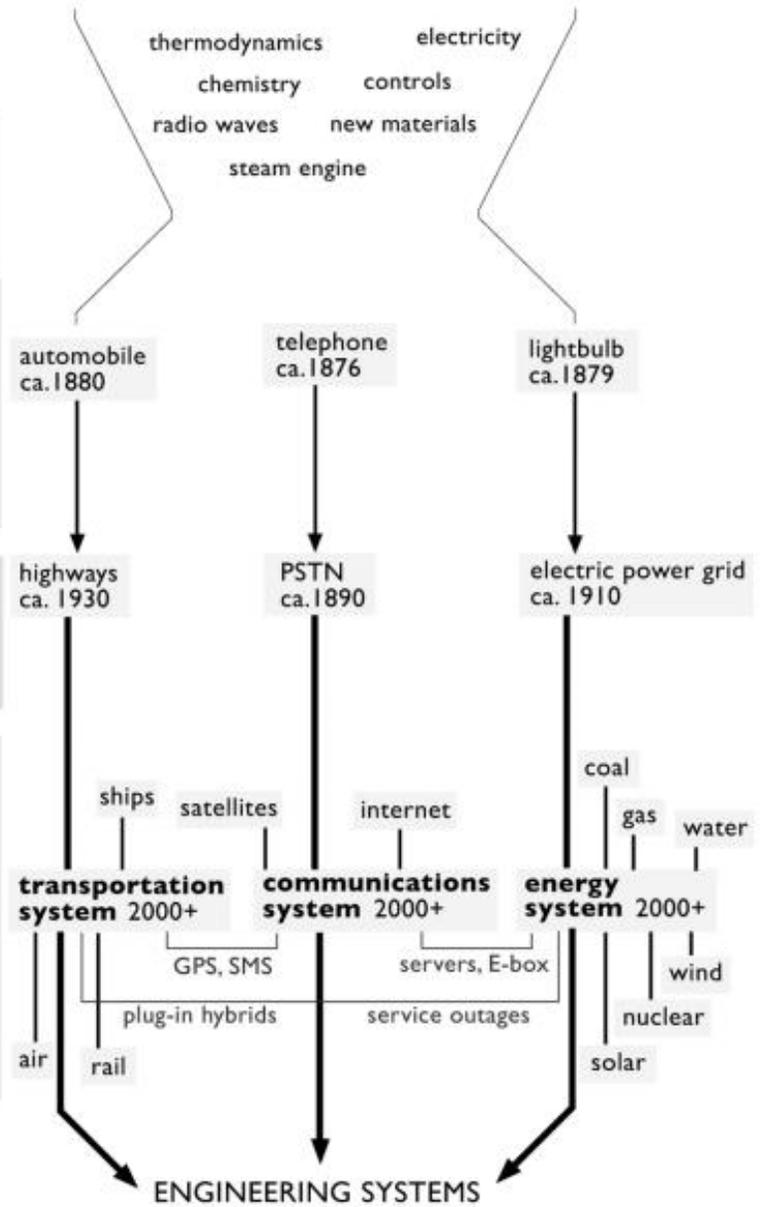
21st Century-beyond
6.5 billion WP+

Industrial Revolution

The Epoch of Artifacts and Great Inventions

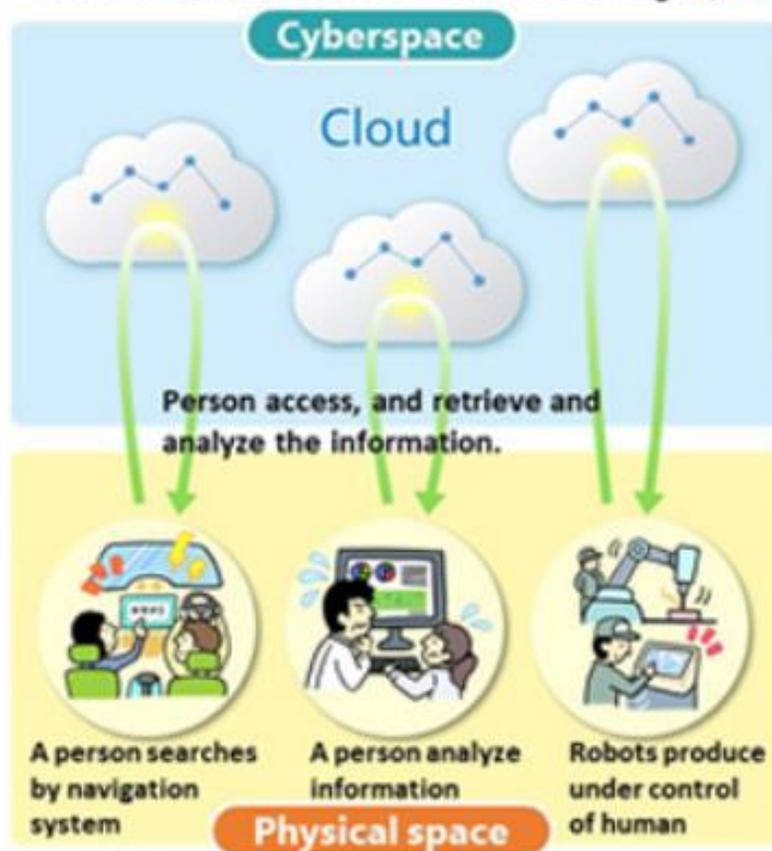
The Epoch of Complex Systems

The Epoch of Engineering Systems



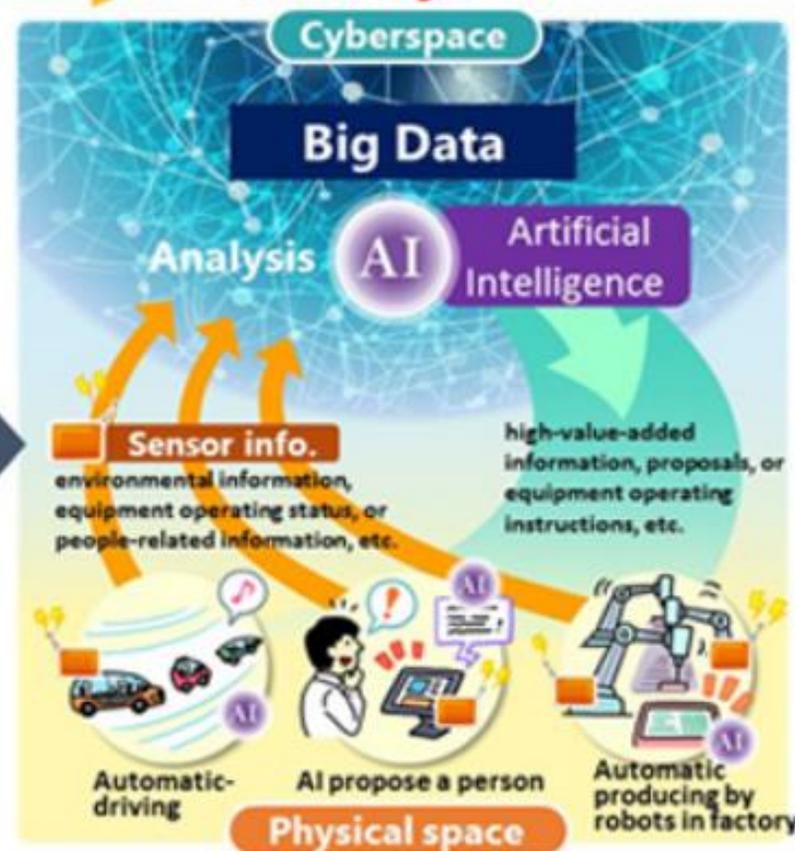
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Current information society (4.0)



[source: CAO,Japan]

Society 5.0



https://www8.cao.go.jp/cstp/english/society5_o/index.html



As inventions integrates/changes into systems >>>> more and more engineers are required.

>>> How engineers work have changed

>>> How they are educated have also changed

>>> Their responsibilities increases not only technical competency but they now must put in a lot of thoughts into their design for sustainability to protect resources for future generation.



THANK YOU



Committed to Engineering Excellence

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