

Edited by Anton Möslang et. al.

# Catch the Star

**Update and Future on Fusion Energy**

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**Research and Development**

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**Management and Industry**

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**Policy and Society**



LEMMENS



# AGENDA

(publication on- and offline, e.g. 250 pages, 4 colour)

**I. Introduction by Anton Möslang et.al.**

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**II. The Big Picture:** „Energy of the Future – vision statement“  
(20 pages) summary: 4 pages

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**III. The Political Landscape:** „Road to a stakeholder management for an energy mix 2030“  
(20 pages) summary: 4 pages

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**IV. The Science behind Fusion Energy:** „What, why, when? 10 scientific challenges, updates and trends“  
(120 pages) summary: 8 pages

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**V. The Governance of Big Science:** „How to create leadership and followership – learn from CERN, NASA and Brain Initiative“  
(40 pages) summary: 4 pages

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**VI. The Translation to Business:** „From Material Science to Security Solutions – industry and mid size companies get fusion research results into products and services“  
(20 pages) summary: 4 pages

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**VII. The Mankind Outlook:** „Long journey great value – catch the star“  
(10 pages) summary: 2 pages

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## THE BIG PICTURE:

### „Energy of the Future – vision statement“

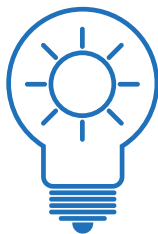
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- **20 pages**  
summary: 4 pages

This is the initial installment of facts in this book that will provide readers with a better understanding of what is coming next in the energy sector and how a mix of energy sources enhance the chance to win on a global level.

Societies, companies, individuals and science can identify the lower risk an energy mix will lead into a long-term value.

“The Big Picture” comprises visionary thoughts and will be an immediate enlightenment of the advantages of Fusion Energy in a stock of energy sources.





## THE POLITICAL LANDSCAPE:

„Germany, Europe and Beyond – a balanced stakeholder management will create an energy mix as a solution for next generations and a chance for societies“



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● **30 pages**

summary: 4 pages

The focus will slant more towards identifying as many relevant political factors as possible that influence the energy solutions of the future.

Insights on Germany, the European Union and beyond like North America, China and India might be able to “connect the dots” to gain a better understanding how different political decisions of short, intermediate and long term interact and how they support or hinder big science for a solid energy concept 2030 and beyond.



# THE SCIENCE BEHIND FUSION ENERGY:

„What, why, when? 10 scientific challenges, updates and trends“

● **120 pages**

summary: 8 pages



The science underpinning much of fusion energy research is plasma physics. Plasmas – the fourth state of matter – are hot gases, hot enough that electrons have been knocked free of atomic nuclei, forming an ensemble of ions and electrons that can conduct electrical currents and can respond to electric and magnetic fields. The science of plasmas is elegant, far-reaching, and impactful – writes the U.S. Department of Energy.

But this chapter is much bigger – it will outline a strong update on scientific challenges and breakthroughs with regard to all disciplines involved. The trends of science on this field is a vital part of these articles.





## THE GOVERNANCE OF BIG SCIENCE:

### „How to create leadership and followership – learn from CERN, NASA and Brain Initiative”

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The governance of science is a rather new topic. Many aspects are linked with the fundamental question: What does social and political theory have to say about the role of science in society? But this chapter is heading for a more applied direction.

CERN, NASA, ITER and other large scale scientific projects developed over time instruments and management tools that guarantee followership.

The authors describe measures which are implementable to mitigate likely risks from loosing political support or melting assistance by industry. Often good project management, transparent communication and a “culture of honesty that science is by nature an uncertain and unpredictable endeavor” are factors of success.

● **40 pages**  
summary: 4 pages



# THE TRANSLATION TO BUSINESS:

„From Material Science to Security Solutions – industry and mid size companies get fusion research results into products and services“

● 40 pages

summary: 4 pages

The gap between scientific discovery and commercialization by empowering new – sometimes – disruptive technologies is in many fields obvious.

The future of the Fusion Energy is linked with the long-term capacity of the corporate sector turn this new knowledge into life. Specialized equipment and R&D labs on company grounds are required to match the goals 2025 and beyond. This is how the authors are helping with their analyzes to build the next generation of Fusion Energy related products, services and – why not – new companies. “The Translation to Business” helps founders and companies bring the provided scientific discoveries in tough technologies into the world and commercialize them at scale.





# THE MANKIND OUTLOOK:

„Long journey great value –  
catch the star”

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● **10 pages**

summary: 2 pages

Tough tech solutions have historically – often – been seen as geek enterprises. In the public opinion they might be underserved and underfunded, leaving many breakthrough inventions stuck inside the lab without a chance of seeing daylight. “The Mankind Outlook” is a first-of-its-kind straight forward outline on the value of Fusion Energy to solve big problems. The authors aim to transform the status quo of scientific venture, economic possibilities and political options in order to make the world the heart of safety and prosperity – and to “catch the star”.



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