
Innovation Management 2030: Integrating social aspects in Technology- and Innovation Management

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It is by no means certain
that things will become better
when they change,
but in order to become better,
they have to change.



Georg Christoph Lichtenberg
German physicist and author
(1742-1799)

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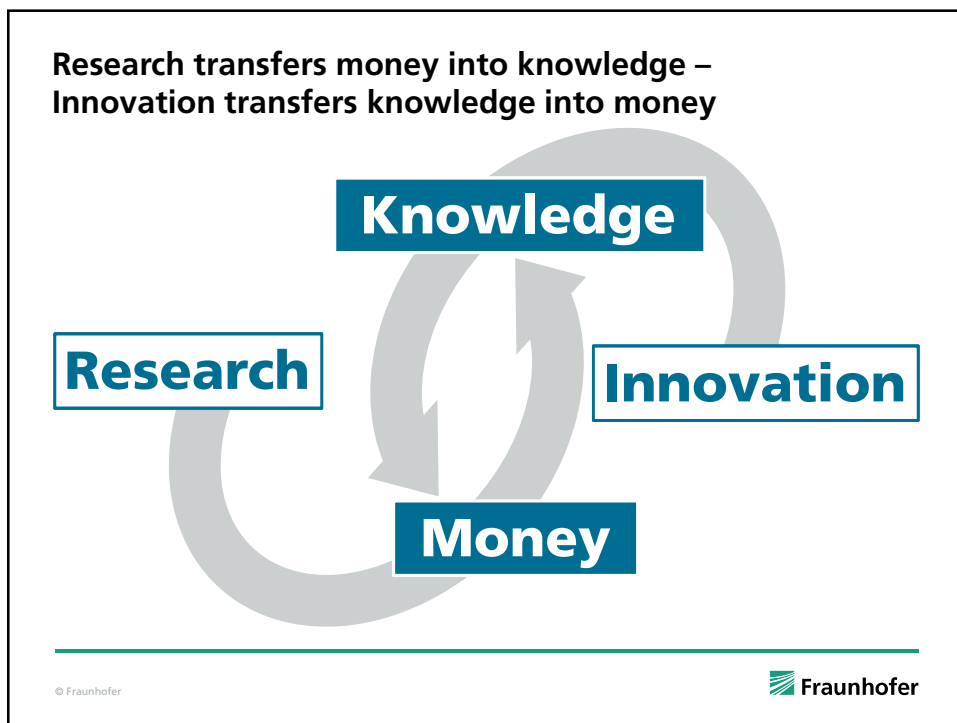


What lies ahead ? Which topics will transform society?

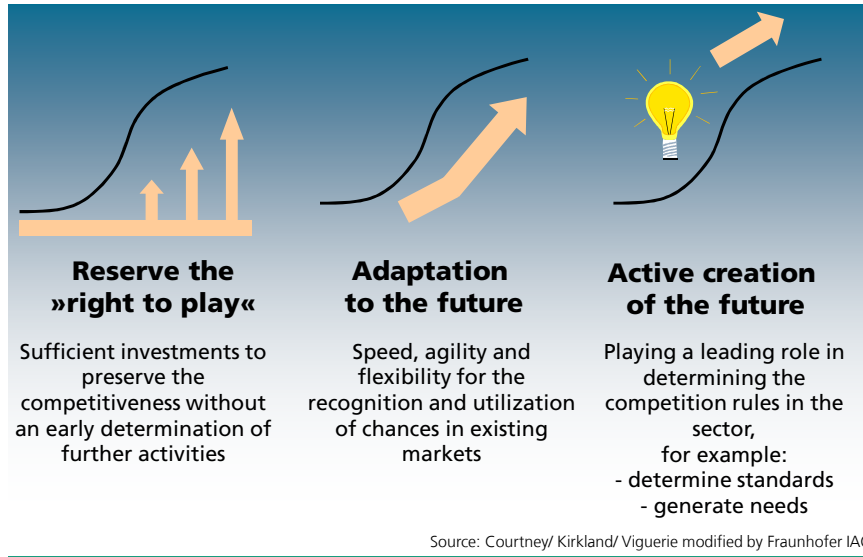
Digital economy and society 	Sustainable economy and energy 	Innovative workplace 
DIGITIZATION		
Healthy living 	Intelligent mobility 	Civil security 

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Three strategic approaches of innovation



Reserve the »right to play«

Sufficient investments to preserve the competitiveness without an early determination of further activities

Adaptation to the future

Speed, agility and flexibility for the recognition and utilization of chances in existing markets

Active creation of the future

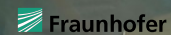
Playing a leading role in determining the competition rules in the sector,
for example:
- determine standards
- generate needs

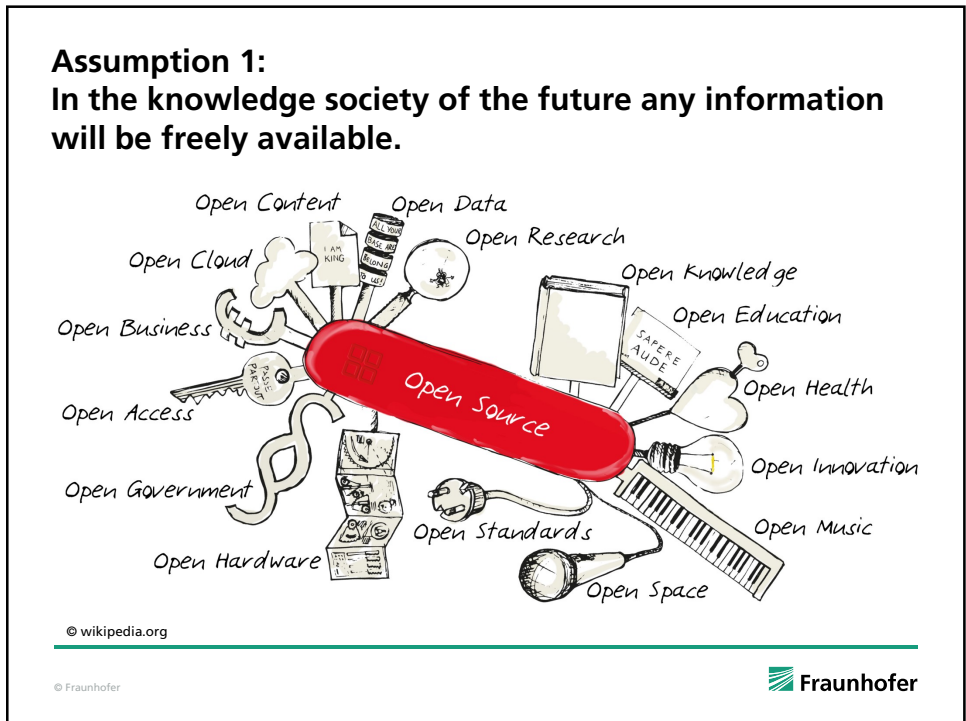
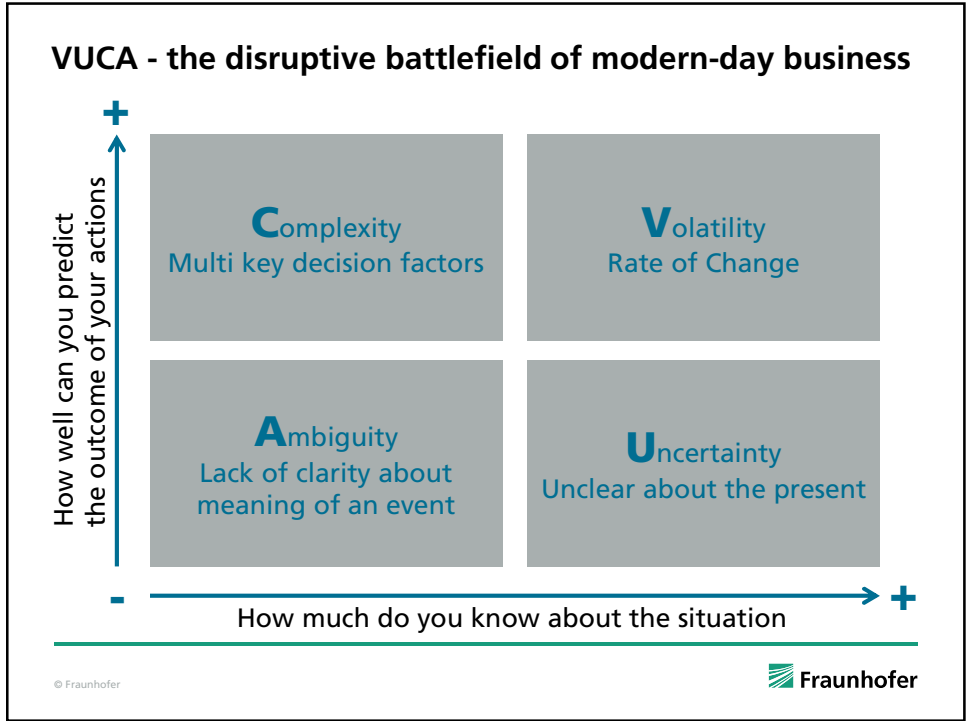
Source: Courtney/ Kirkland/ Viguerie modified by Fraunhofer IAO

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Innovation Needs Networking and Management





Assumption 2:
Crowdfunding will compete with existing public and private funding mechanisms

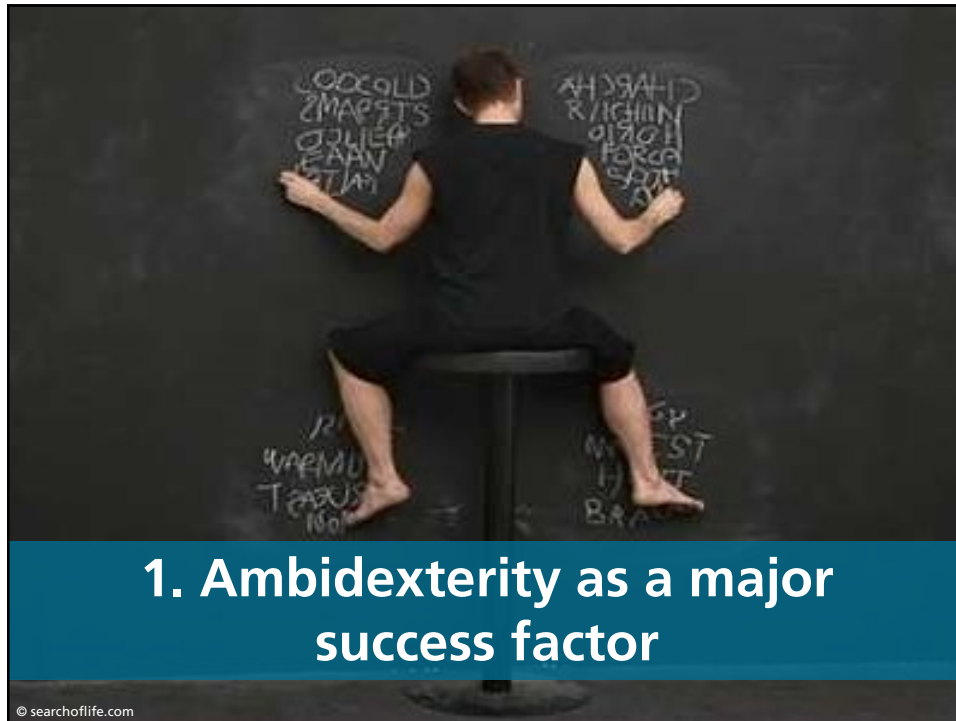
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Assumption 3:
People with the motivation of gaining knowledge will be able to contribute to research and development.

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- They can share their results on the Internet
- They are able to build their own networks of experts.
- Science will further democratized and the "ivory tower of research" might collapse and turns into an arena of knowledge generation.
- The still established paths of "technology push" through organized research will be infiltrated in a "do it yourself" society, if not spilled.

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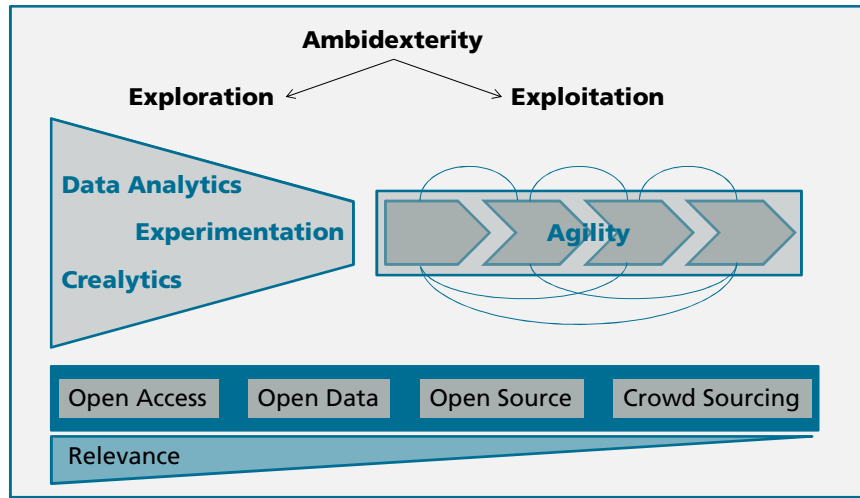
Challenge 1: Ambidexterity as a major success factor Ambidextrous organizational architectures

The overcoming of dysfunctions and tensions by instruments and organizational architectures enabling exploitative and explorative innovation simultaneously.

- Currently one of the "hottest" issues discussed in Innovation- and Technology-Management
- Competitive advantages are to be created through the simultaneous pursuit of
 - exploitative (incremental improvements) processes and
 - explorative processes (radical Innovation)
- Organizational challenge:
Simultaneous implementation of stability and change in the company

How to design organizational forms / instruments that support exploitative and parallel explorative activities?

Challenge 1: Ambidexterity as a major success factor
Exploration and Exploitation have to be organized in totally different ways



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2. Technologies are reinterpreted & Interdisciplinarity is relived

Challenge 2: Technologies are reinterpreted & Interdisciplinarity is relived
Open Innovation and Design Thinking are the keys



Sources: ShapingFuture 2016, Fraunhofer IAO

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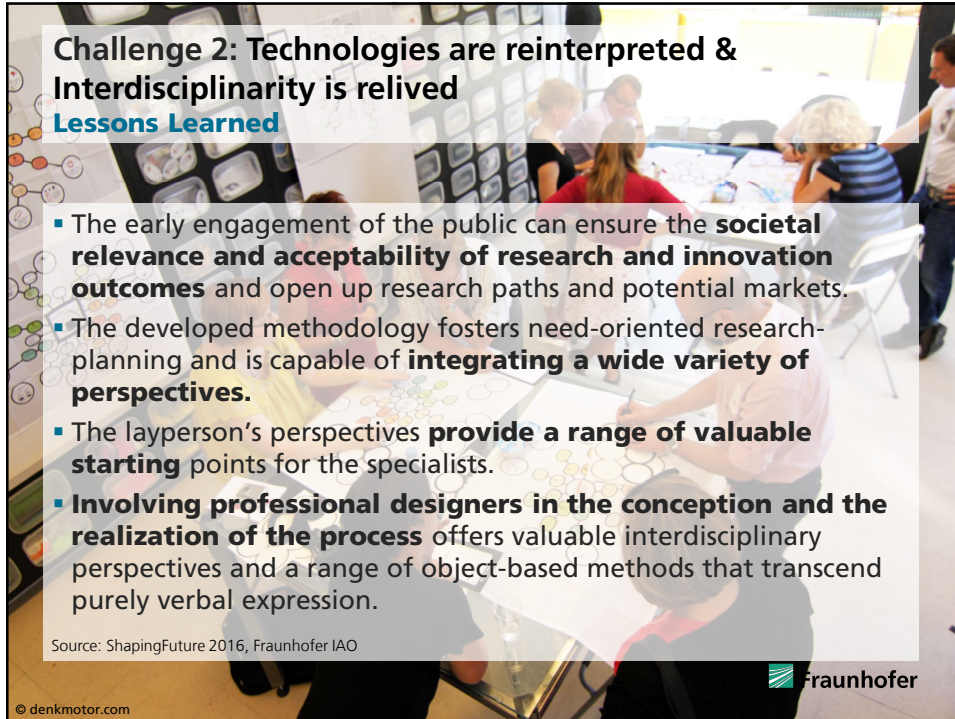


Challenge 2: Technologies are reinterpreted & Interdisciplinarity is relived
8 Findings

1. Go interdisciplinary!
2. Enabling is key! Co-designing future technologies requires deliberate process design
3. Involve designers into process design
4. Utilise diversity to address public preferences
5. Prototypes materialize ideas that can be difficult to verbalize
6. Document intermediate steps and results
7. Develop new methods for evaluating and clustering collected data
8. Professional transformation refines results

Source: ShapingFuture 2016, Fraunhofer IAO

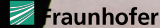




Challenge 2: Technologies are reinterpreted & Interdisciplinarity is relived
Lessons Learned

- The early engagement of the public can ensure the **societal relevance and acceptability of research and innovation outcomes** and open up research paths and potential markets.
- The developed methodology fosters need-oriented research-planning and is capable of **integrating a wide variety of perspectives**.
- The layperson's perspectives **provide a range of valuable starting points** for the specialists.
- **Involving professional designers in the conception and the realization of the process** offers valuable interdisciplinary perspectives and a range of object-based methods that transcend purely verbal expression.

Source: ShapingFuture 2016, Fraunhofer IAO

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3. The smart creatives make it easy & claim a new kind of executives


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Challenge 3: The smart creatives make it easy & claim a new kind of executives

Pebble: E-Paper Watch for iPhone and Android



Pebble is a customizable watch. Download new watchfaces, use sports and fitness apps, get notifications from your phone.

Erstellt von
Pebble Technology 

68.929 Unterstützer haben 10.266.845 \$ beigetragen, um die Verwirklichung des Projekts zu ermöglichen.

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Challenge 3: The smart creatives make it easy & claim a new kind of executives

Learning to decide

Fast Learning in dynamic contexts enables fast decisions

- Creative Labs, Co-Working Spaces and Centers sprouting up everywhere
- Design Thinking **as a culture (!)** for interdisciplinary, creative problem solving is recognized and is gaining importance
- Effectiveness through discourse and consensus on a defined problem

But:

- Is the world as it is described to us here?
- Dealing with the NEW can not be described as a problem!
- An organization must endure uncertainty

People who want the NEW must be able to learn, want and can.

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Challenge 3: The smart creatives make it easy & claim a new kind of executives

Experiment instead of Structure

Formal Innovation Strategies and – organisations are replaced by the enabling of fast Experiments

- Invention is an expedition
 - Search for problems whose solution is worthwhile
 - Rapid prototyping and pilot tests
- Everything is there to experiment quickly:
 - Crowdfunding platforms deliver a fast "Feedback" for an experiment
 - Open Innovation Platforms bring ideas to the company or companies to ideas
 - Open standards, open source hardware and software are the drivers!

Learning by doing!

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Challenge 3: The smart creatives make it easy & claim a new kind of executives

Democracy, Sociocracy, Heterarchy, Meritocracy and Holacracy lead to an era of new managers!

Democratic forms of empowerment for potential innovators supplement the force of charismatic entrepreneurs.

- Three out of four executives are convinced that the management culture needs to be changed
- Self-organized networks gain importance
- Collective intelligence of employees and customers presupposes creativity and innovative capacity
- Freedom of decision and responsibility are increasingly important to motivate people

Results of a study commissioned by the "Initiative New Quality of Work" (2014)

Sociocratic decisions lead to better solutions

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Challenge 3: The smart creatives make it easy & claim a new kind of executives

**Who knows his crowd wins !
StartUp Autobahn Arena2036**

- Arena2036 is a research campus for interdisciplinary, cross-company new product development in the future automotive industry.
- Under the lead of Daimler and in cooperation with Plug&Play they introduced the „StartUp Autobahn“to create their specific crowd along all aspects of future Mobility.



ARENA2036 DAIMLER



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Technik fürs Leben

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Challenge 4: Invention Manager 1.0

Esteem rather than hierarchy

The new Invention Manager identifies technological opportunities and potential needs in the field. He brings people together and enable them to discover and implement the New.

- An Invention Manager ...
 - ... develops an organization that quickly learns from their mistakes in an efficient and consistent way,
 - ... asks the right questions (questioning the core business)
 - ... beats a path into the unknown
 - ... gives time, instruments and tools and sets important limits
 - ... is an advocate for the New

The Invention Manager 1.0 will not be "process owner", but more than ever Coach, Changemaker, Scout, Rule-Breaker and "Crosslinker"

... integrating social aspects

1 Culture & Co-Creation



2 Co-Creation



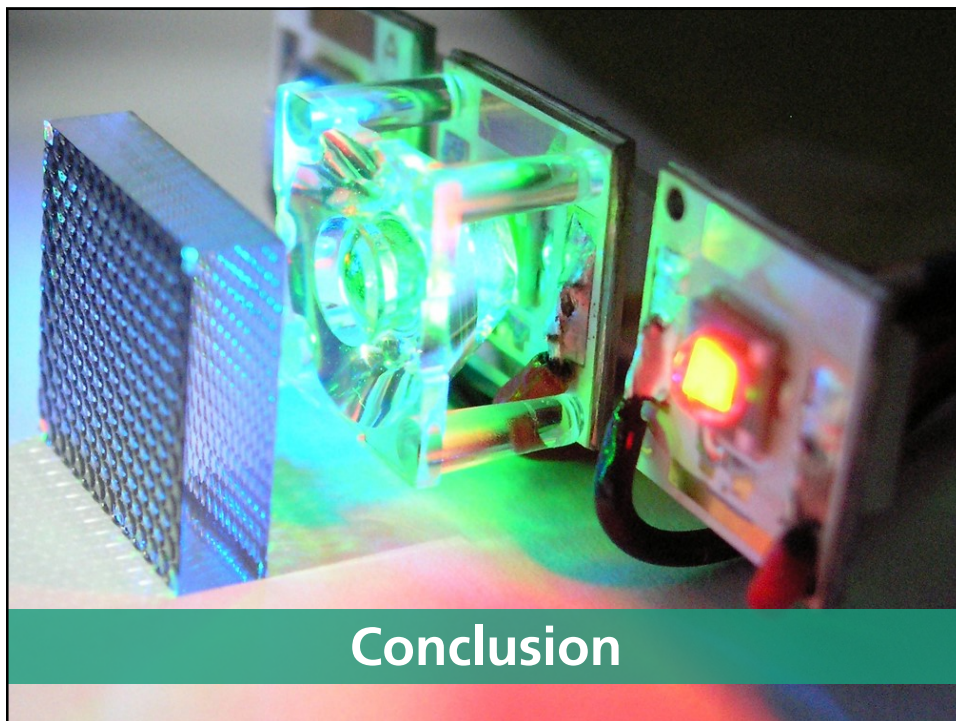
3 Culture & Co-Creation



4 Social Worker of Innovation Management



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Conclusion

What successful innovators have in common

1 A clear strategy



2 The best team available and best working conditions



3 Specific Processes and Methods



4 A determination to succeed



5 A constant control loop of results



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More from less

We need a new paradigm change from
»realizing maximum profit out of minimal funds«
 towards
»maximal creation of value out of minimal resources«



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Fraunhofers secret:



**10 good ideas a day
keep your competitors away**

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