



Welcome
to the

**NEXT
LEVEL**

Annual Meeting 2020

Inspiring polymers



DPI

The Polymer
Research Platform



Welcome to the DPI Annual Meeting 2020

Inspiring polymers

27 October 2020



Farewell Prof. Vincenzo Busico

And a warm welcome to prof. Bernhard Rieger

Thank you!

Prof. Vincenzo Busico

- Joined DPI in 1999
- Leader in heterogeneous polyolefin catalysis
- Huge network in the Polyolefin research community
- Famous for high throughput approach
- Strong advocate of the DPI approach and instrumental in bringing new industrial and academic partners to the DPI network, building a strong DPI Polyolefin community
- Organised DPI Blue Sky Conferences & DPI Polyolefin course which have had a great impact in the creativity and the knowledge base in the DPI community





Warm welcome! Prof. Bernhard Rieger



- WACKER Chair of Macromolecular Chemistry at Technical University of Munich
- Director of the Institute of Silicon Chemistry in 2006
- PhD at the Ludwig-Maximilians-Universität (LMU) in München in 1988
- PostDoc research at the University of Massachusetts
- Habilitation at University of Tübingen
- Professor Macromolecular Chemistry at the University of Ulm, Germany in 1995
- Awards:
 - “Advanced Student Education” of Baden-Württemberg in 1997
 - “Exceptional Cooperations between Academia and Industry” of the University of Ulm in 2000.
 - Philip Morris Foundation laureate in 2006.
 - honorary doctorate from the University of Helsinki Since 2007
 - Member of Finnish Academy of Science and Letters since 2008
 - Member of European Academy of Science, Belgium since 2011
 - Wöhler Award from the German Chemists Society (GDCh) for Sustainable Chemistry in 2013
 - Member of the National German Academy of Science and Engineering since 2013

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Collaborations

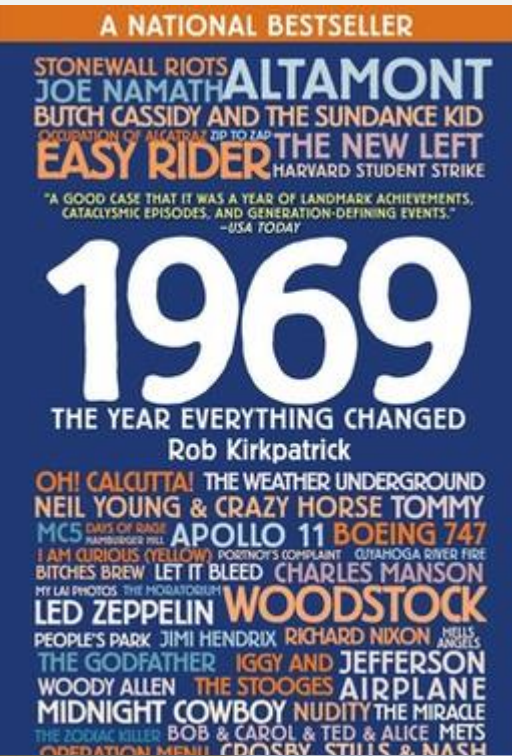


DPI update 2020

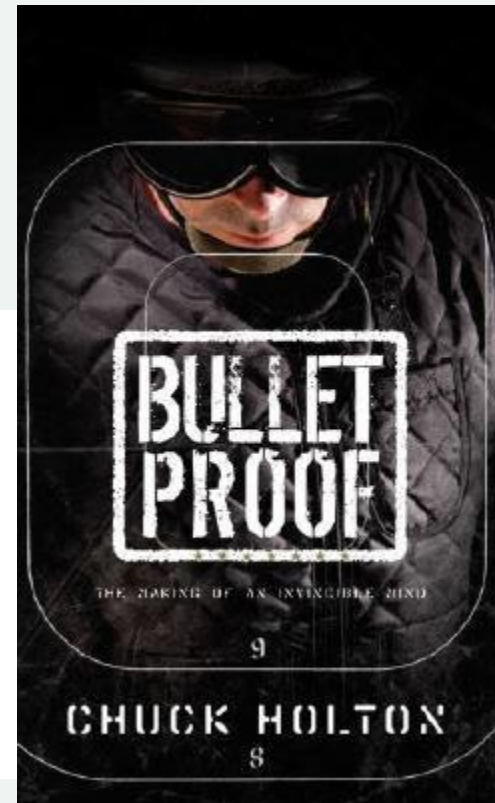
Ernst Jan van Klinken
27 October 2020



Who am I?



TU/e EINDHOVEN UNIVERSITY OF TECHNOLOGY





DPI network of industry leaders



Research Programme Areas

Currently, focus on four Programme Areas:

- Polyolefins (9 participants, 17 projects, 18 univ., 31 researchers)
- Performance Polymers (8 participants, 21 projects, 19 univ., 31 researchers)
- Polymers for Oil & Gas (EOR; 2 participants, 5 projects, 5 univ., 5 researchers)
- Circular Plastics Initiative (13 participants, 1 project, 6 researchers)

Partnership with ISPT



Institute for
Sustainable
Process Technology

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Challenges



DPI Strategy 2023

Preparing for a Sustainable Future





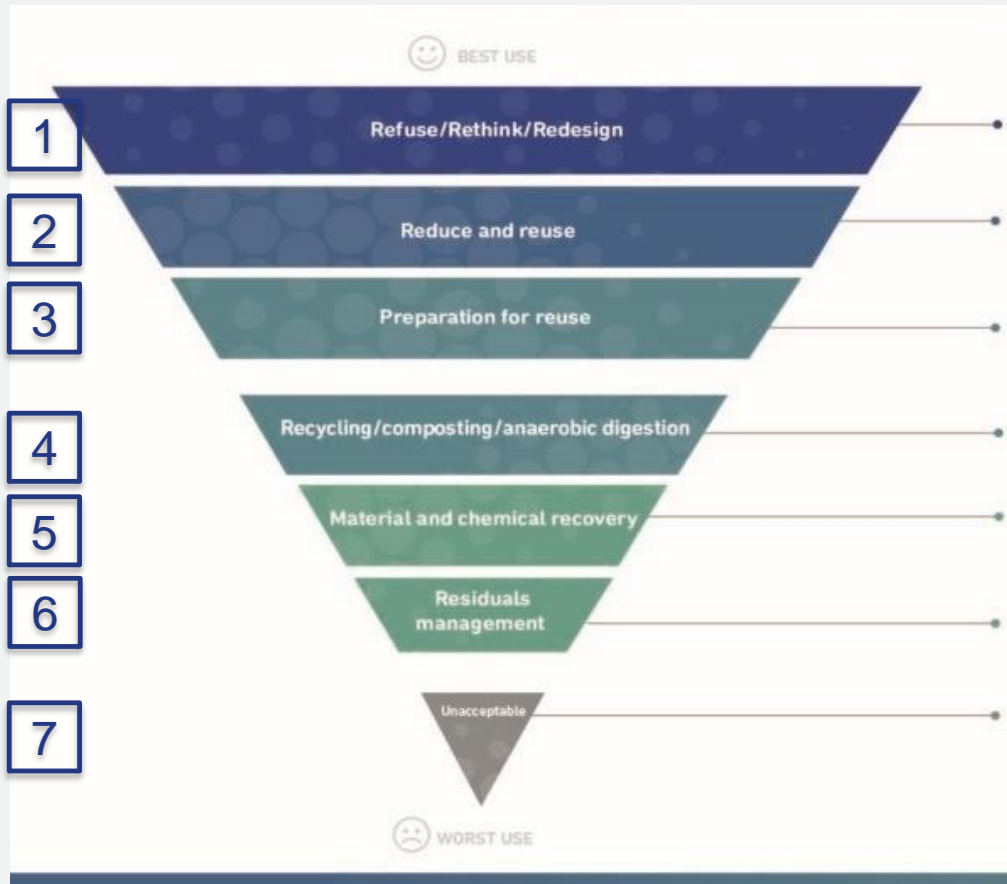
The world we live in... ...it's getting warmer quickly

- UN Framework Convention on Climate Change 2016:
max 2° global warming, targeting 1.5°
- EU 2050: climate / carbon neutral (cut CHG 80-95%; 2/3 of energy renewable)
- EU 2030: cut CHG >55% compared to 1990 levels & set ambitious and cost-effective path to achieve goals 2050





Portfolio Circular Plastics: well spread and rapidly expanding



1. Design for recycling (product):	4 projects + 2 in calls + 3 requests subsidy
2. Lifetime prediction & extension:	7 projects + 1 request subsidy
Reduce material & energy:	1 project
Reduce toxicity:	3 requests subsidy
Materials for Energy:	2 projects
4. Design for recycling (process):	2 projects + 3 in calls + 1 request subsidy
Mechanical recycling:	1 project + 1 in call + 1 request subsidy
Chemical recycling:	1 project + 1 in call + 1 request subsidy
5. Material recovery:	1 project + 1 in call + 2 requests subsidy

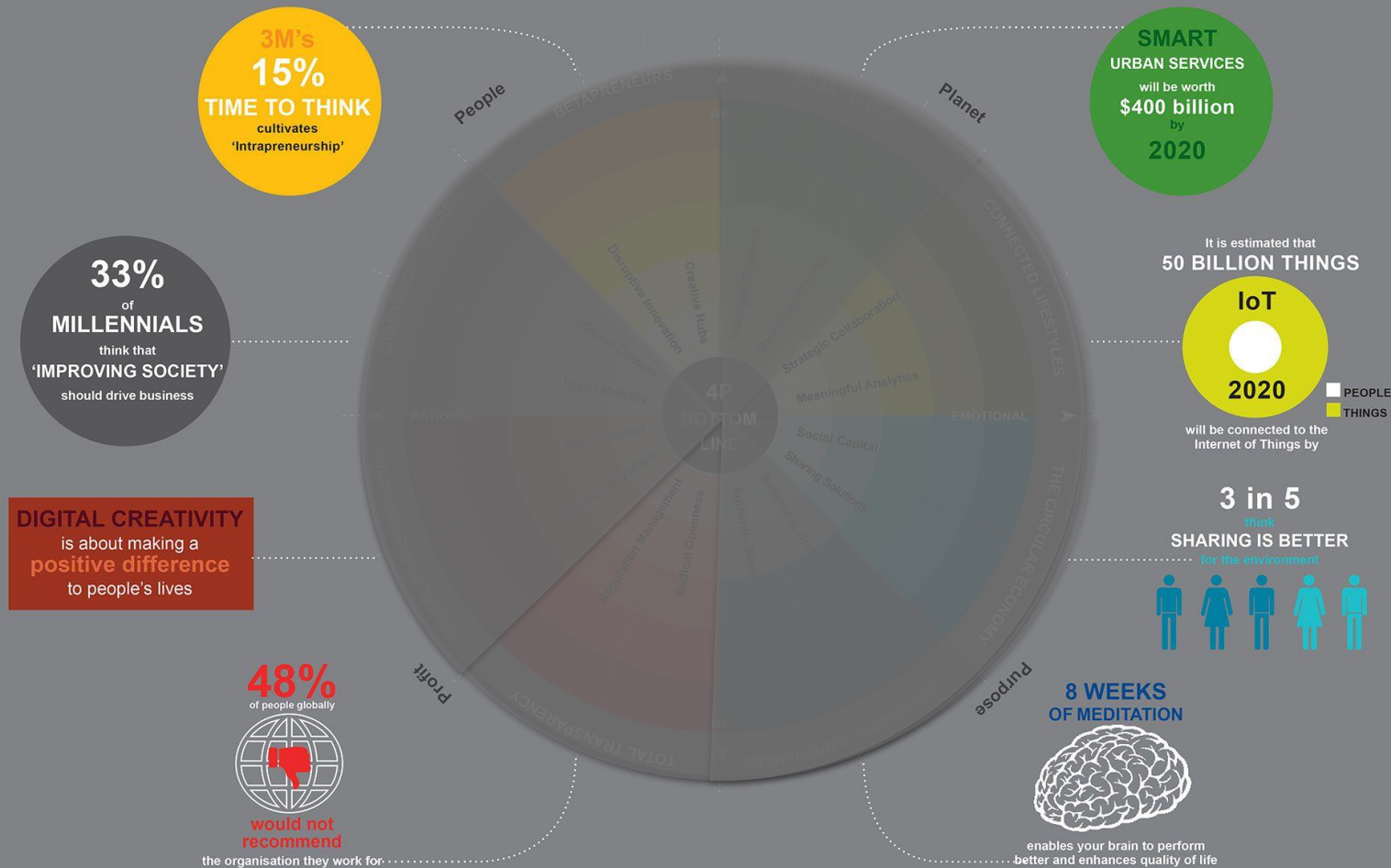
DPI recently submitted additional funding requests for Circular Plastics with EU & national subsidy funds for a total of 6M€ subsidy, all directed towards Circular Plastics

The 4P world we live in... ...and the role of DPI

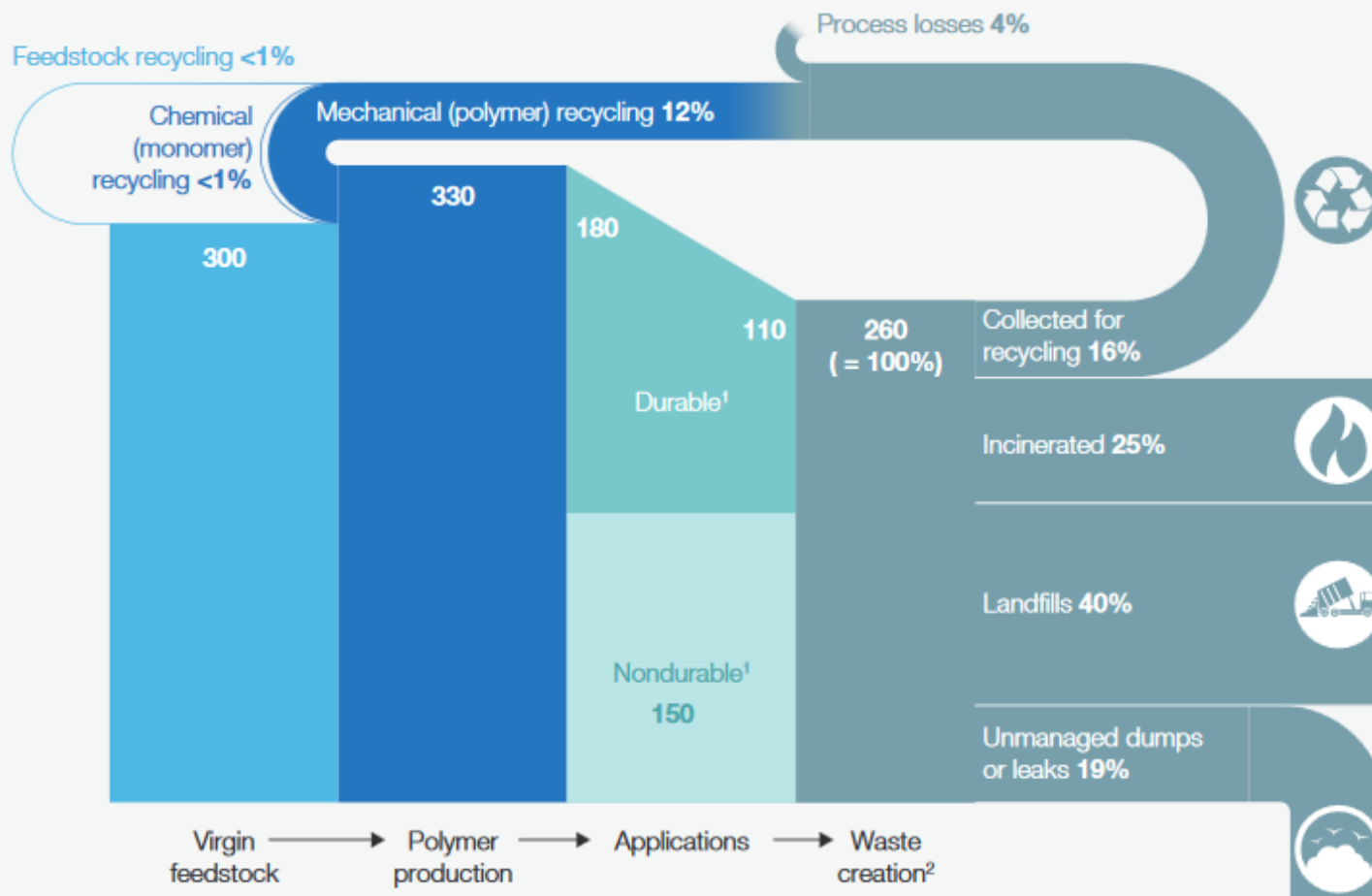
8 KEY TRENDS 2020

SHAPING PEOPLE, CITIES & BUSINESSES

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Global polymer flow



Vast majority (>80%) of our GPP (Global Polymer Product) still ends up in oceans, litter, landfill or incineration

¹ Durable applications with an average lifetime >1 year will end up as waste only in later years; nondurable applications go straight to waste.

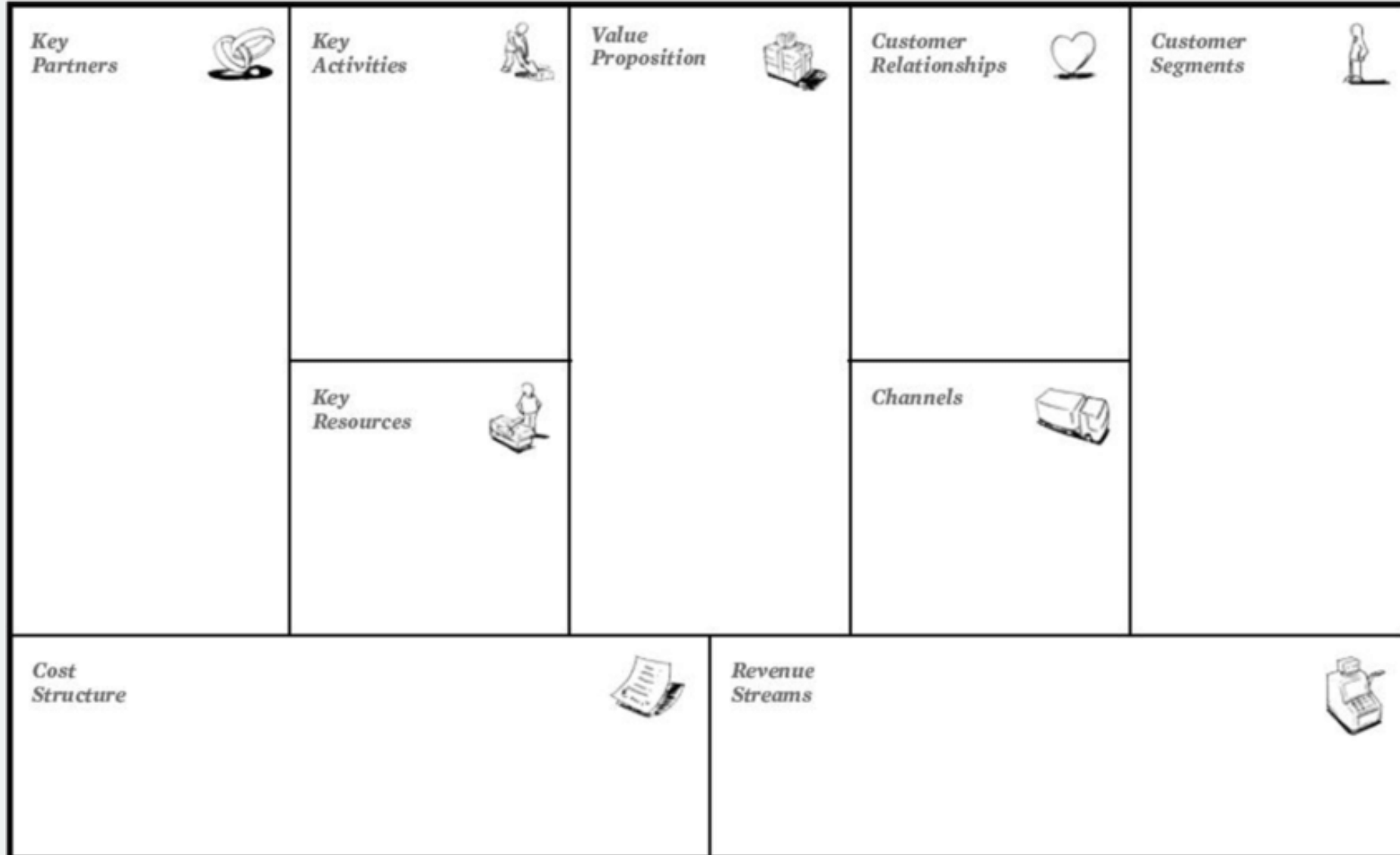
² 150 million metric tons of mixed plastic waste from nondurable applications that end up as waste in same year, plus 110 million metric tons of mixed plastic waste from production in previous years.



Strengths of DPI ...to build upon

- 1. Unique concept (competitors jointly funding R&D projects, independent @ world-class Knowledge Institutes)**
- 2. Community: industrial experts and academic researchers** strongly liaised in **global** community (with lasting relationships)
- 3. Scientific quality of work** (quality review process, scientific chairs & competent industry representatives)
- 4. Reputation / track record:** Well positioned to help solve the BIG topics
- 5. Relevance** (industrial & societal)
- 6. Agility** (least bureaucratic, quick to fund application, swift execution and follow-up)
- 7. Power** in network (energy for change)
- 8. Talent pool**

Osterwalder Canvas: Business Model Generation

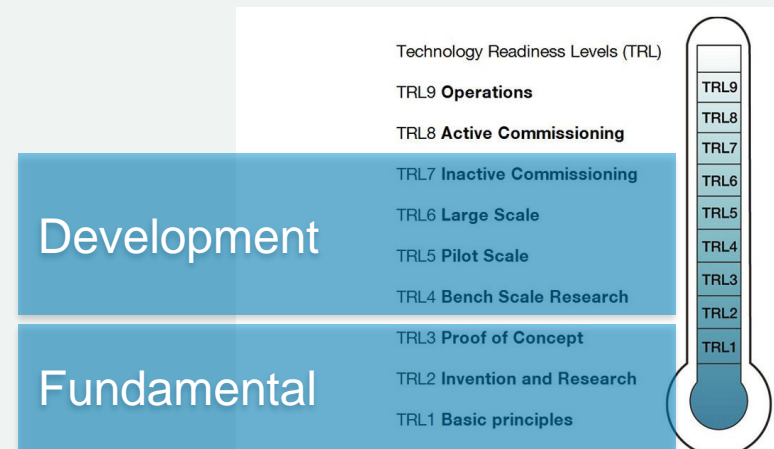


Strategy 2023

Executive Summary

In order to grow relevance, impact, scale and financial viability DPI needs to build on its strengths and add the following elements to its portfolio of activities:

- 1. Base Case:** Further build current activities in **DPI Fundamental:** programmes PO, PP, EOR and **Circular Plastics Initiative** (partnership with ISPT)
- 2. Add new Programmes** to the **DPI Fundamental** (TRL1-3) Research Platform:
 1. Bio-Medical !
 2. Biodegradable ?
 3. Complex Fluids ?
 4. Polymers for Energy Transition ?
- 3. Expand DPI Development** (TRL 4-7) beyond **Circular Plastics Initiative**, linked to help build speed in the implementation programme towards societal mission themes:
 1. Bio-Based
 2. Bio-Medical
 3. Spin-outs from current Programmes





DPI Strategy 2023

Preparing for a Sustainable Future

The future starts now!



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