



Support for Innovation Processes in Collaborative Networks

Heiko Duin¹, Manuel Fradinho², Marcus Seifert¹, Klaus-Dieter Thoben¹

¹ BIBA – Bremer Institut für Produktion und Logistik GmbH

² Cyntelix Ltd., Ireland

Overview

1 Introduction
Motivation & Current Trends

2 Idea Management
Issues & Problems
Requirements

3 Living Labs Approach

4 Proposed Research Directions
Collective Intelligence & Competence Development
Sustainable Manufacturing

5 Conclusions and Outlook

Motivation



Current Trends, Implications and Challenges

Trends

Innovation in Numbers

*85 % of product development time is invested in products
which never reach the market.*

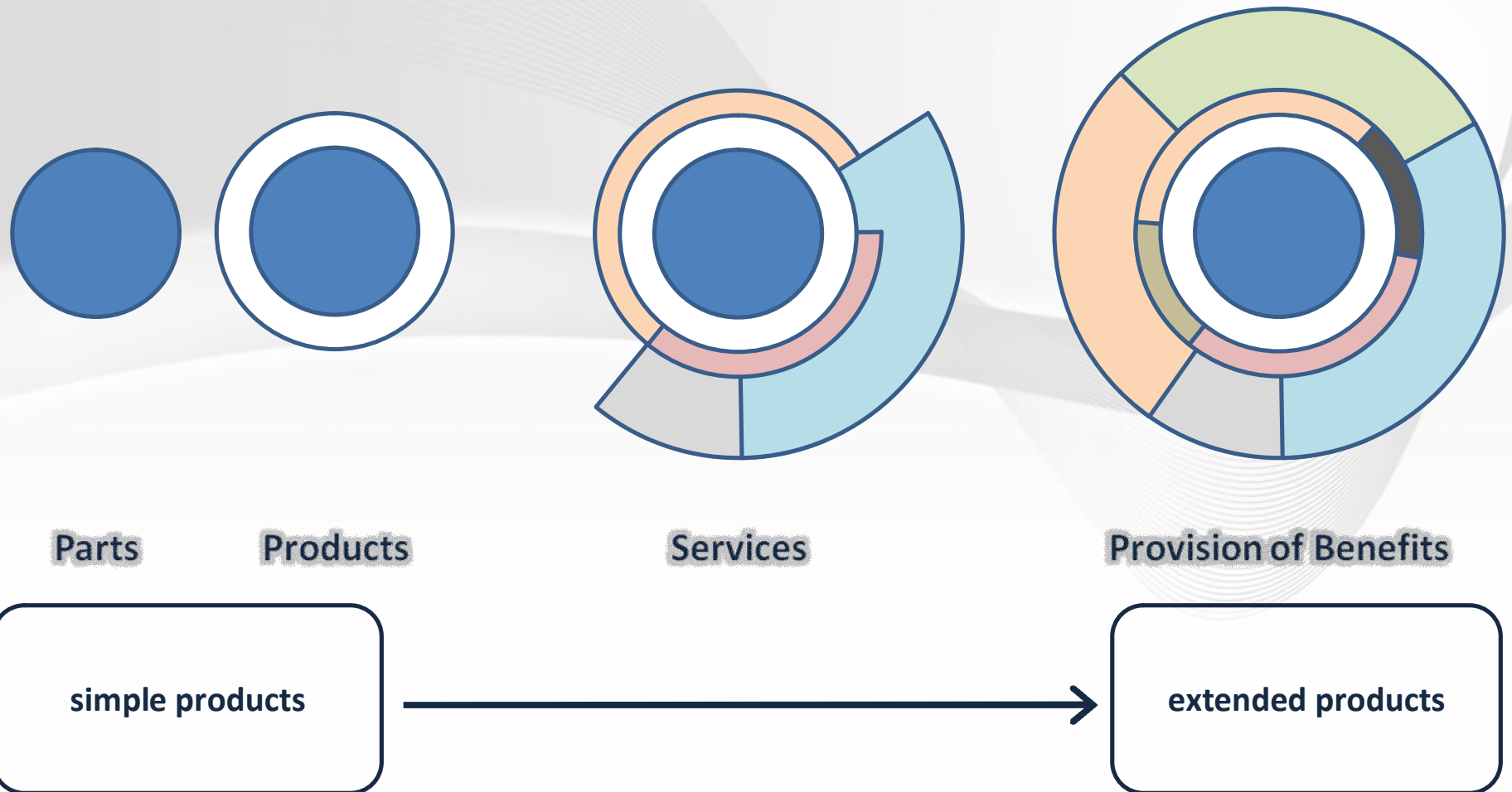
Reinhold Bauer: Kein Bedarf für Plastikräder. Freitag 43.

*Only 18 % of the innovations brought into the market
prove sustainably successful.*

Innovation Network Austria Study. 2005.

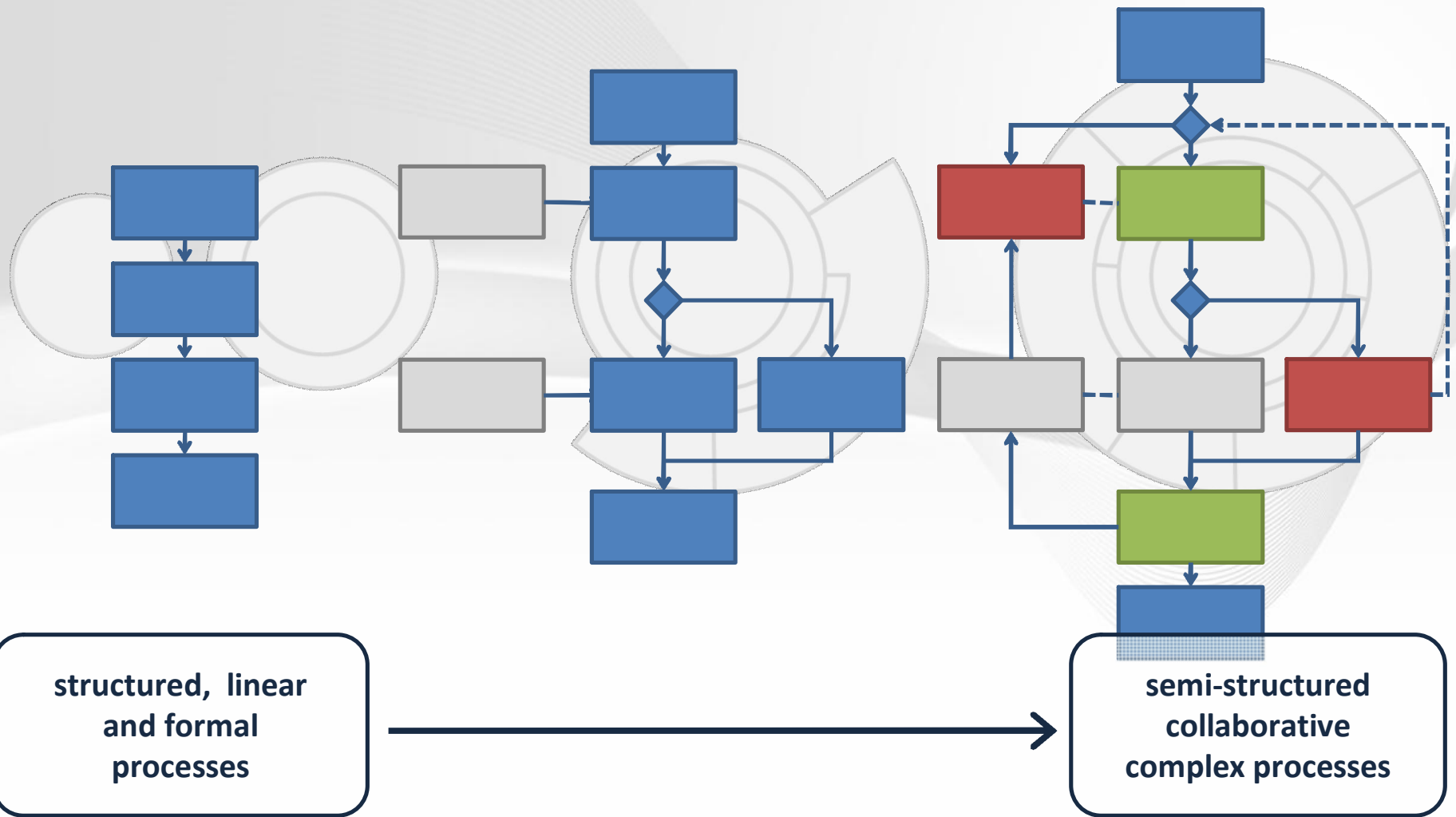
Motivation

Continuous Growth in Complexity – Products



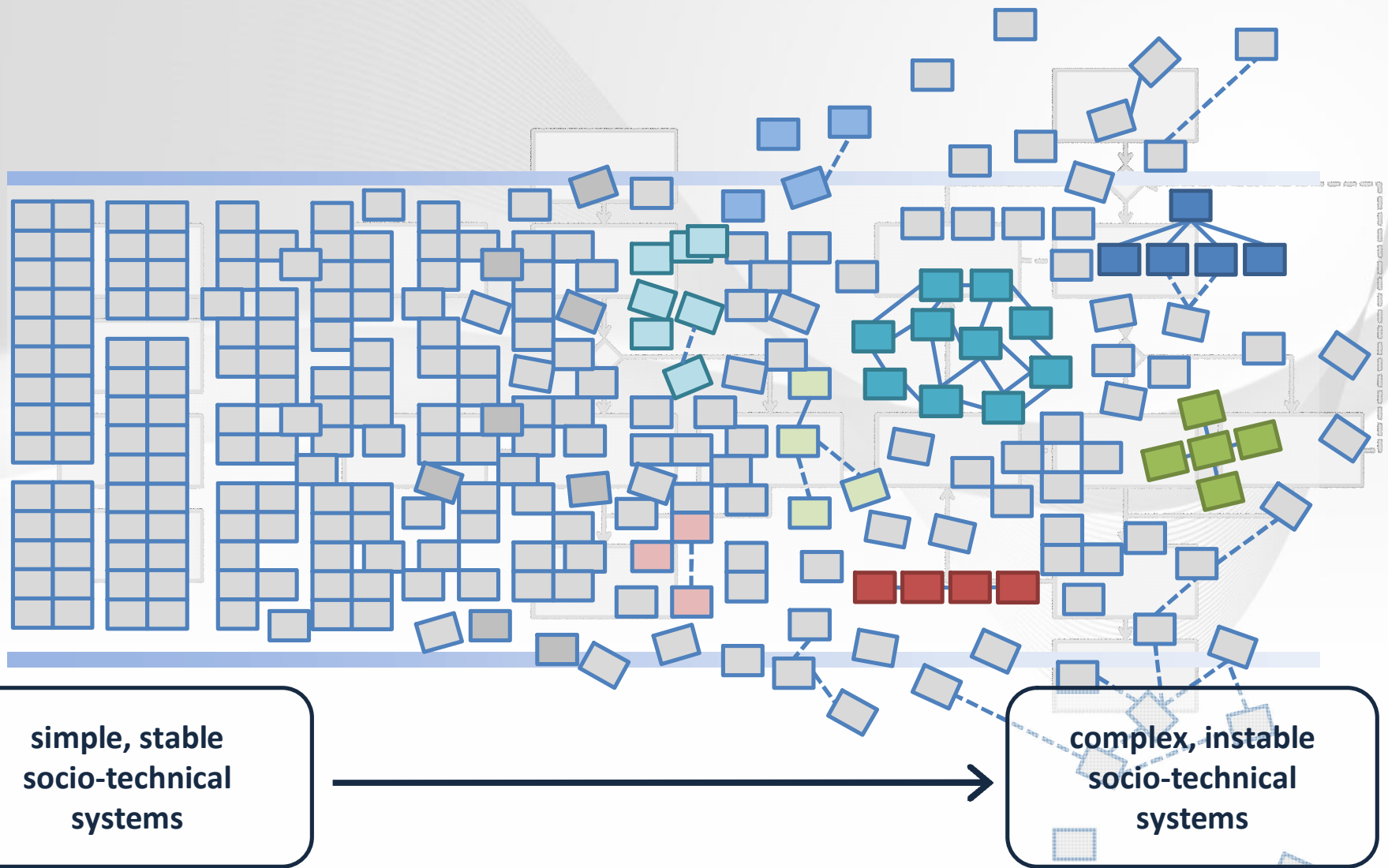
Motivation

Continuous Growth in Complexity – Processes



Motivation

Continuous Growth in Complexity – Organisation

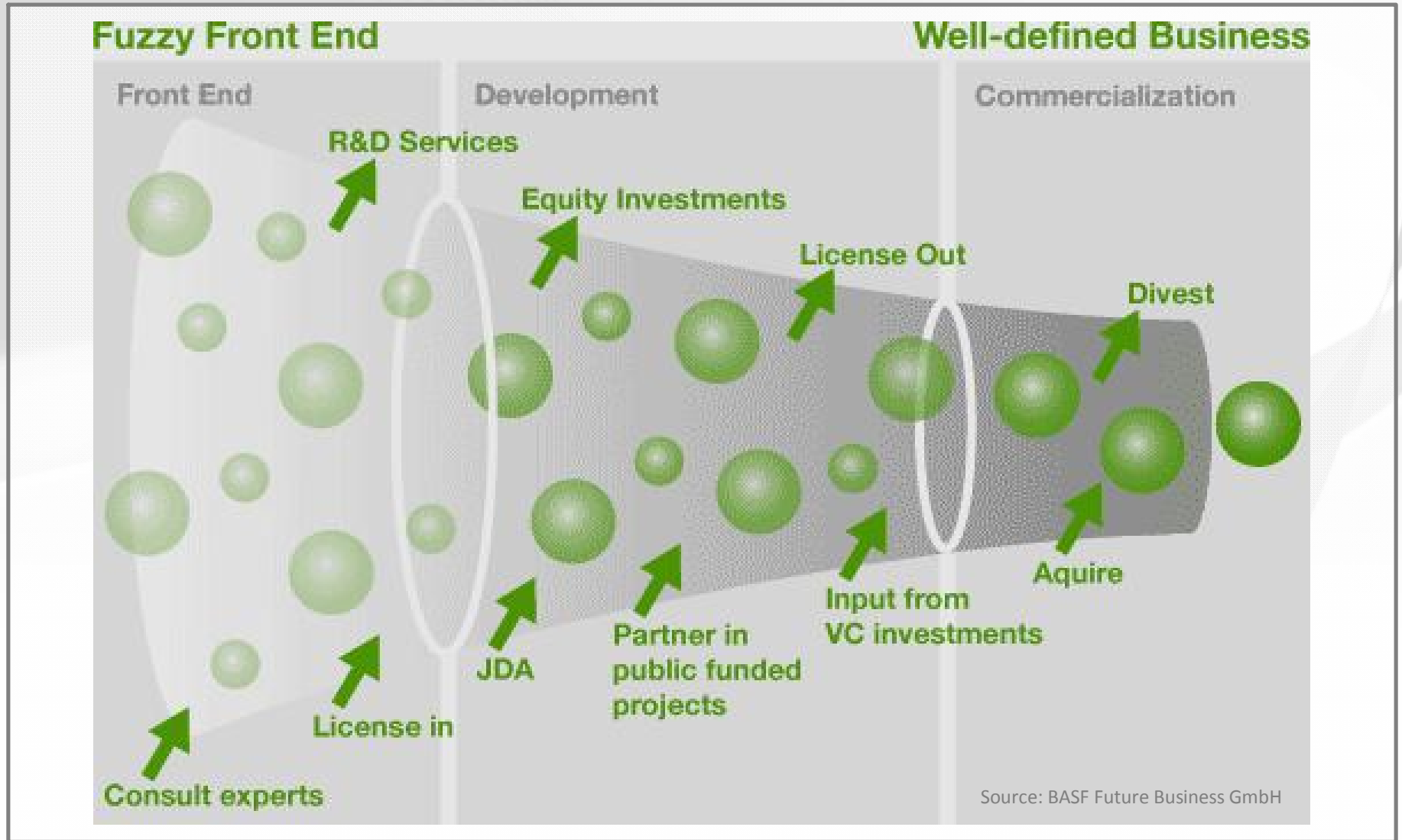


simple, stable
socio-technical
systems

complex, instable
socio-technical
systems

Open Innovation

Paradigm by Chesbrough (2003)

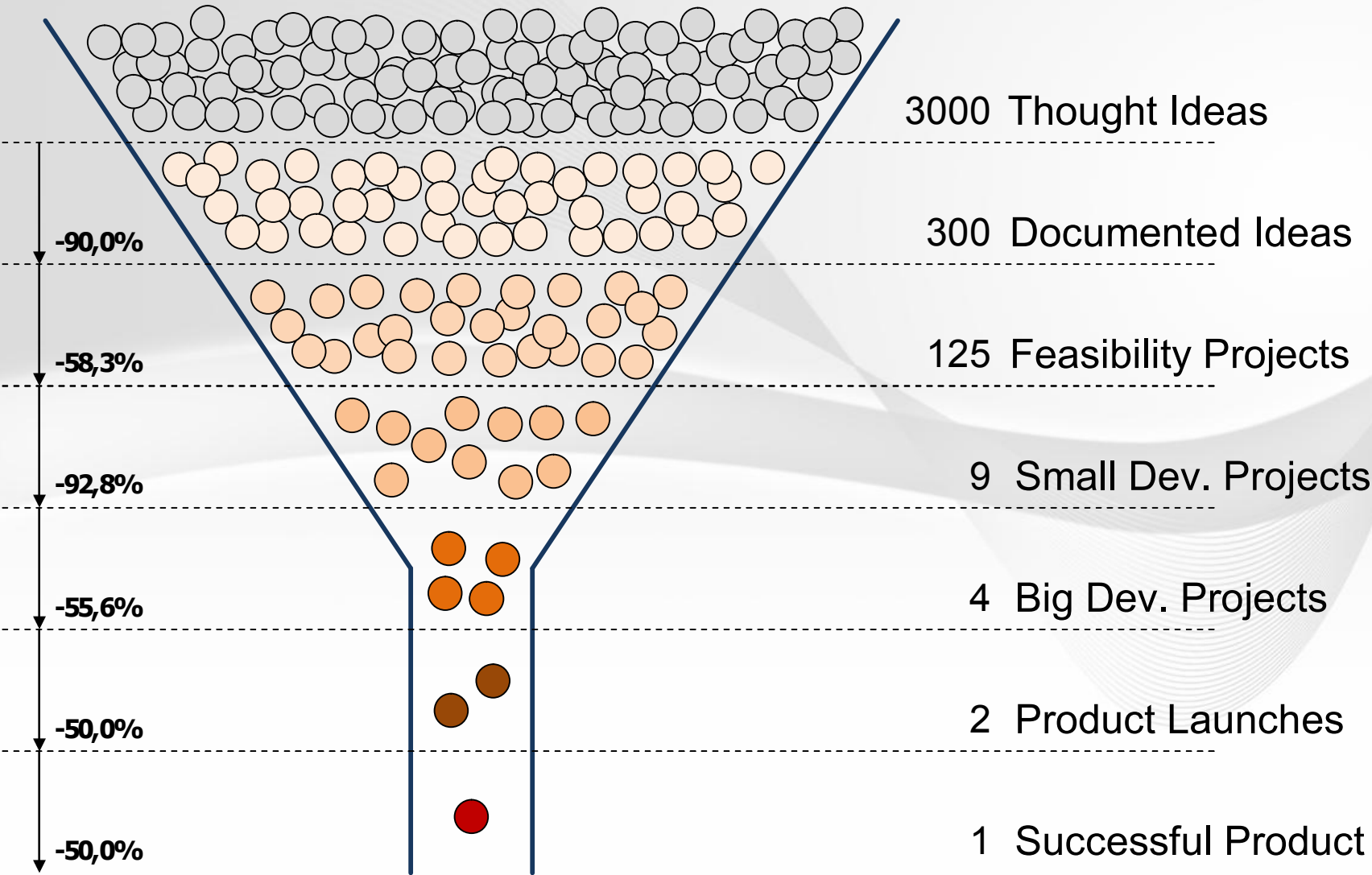


Idea Management



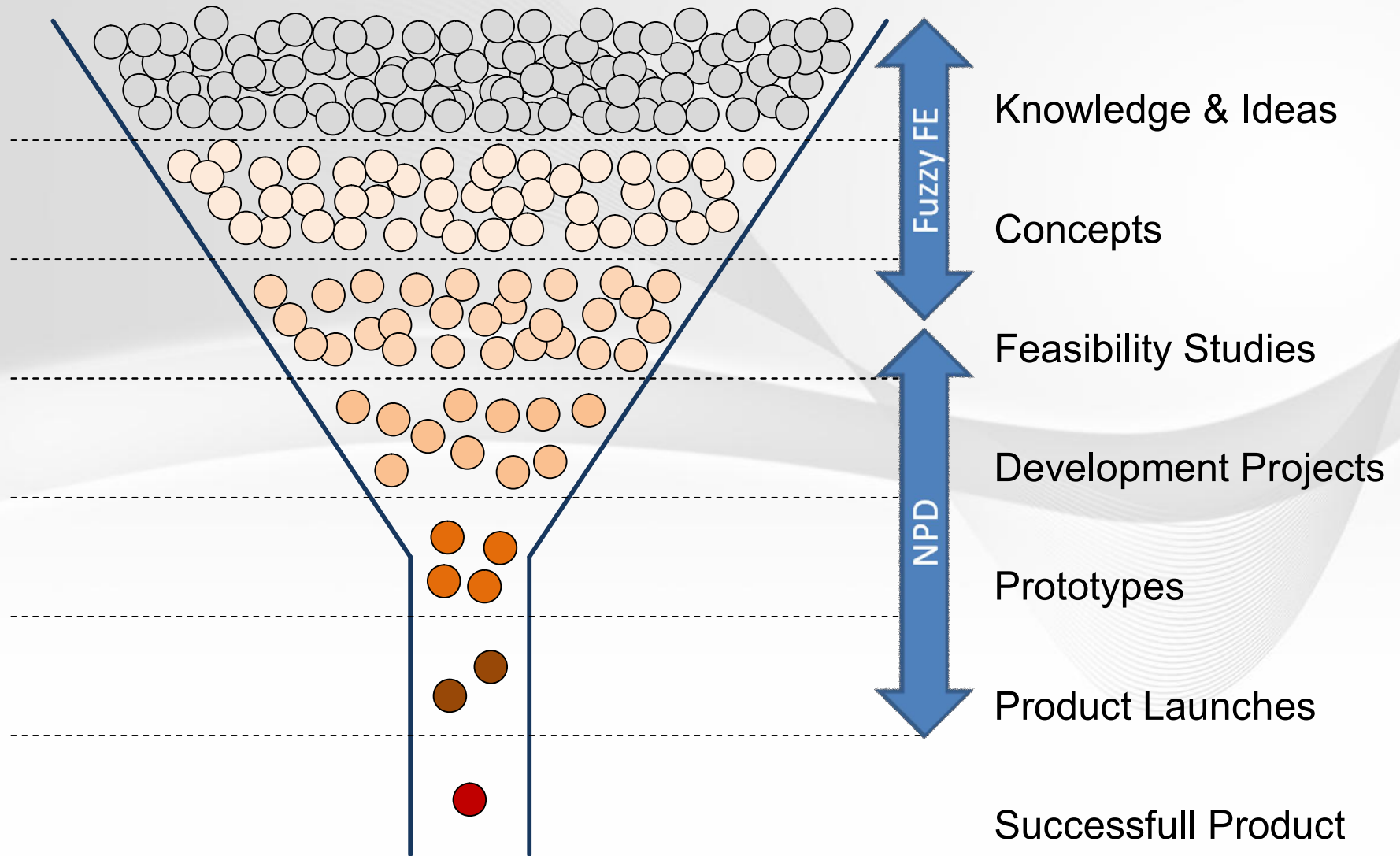
Issues, Problems & Requirements

Idea Management



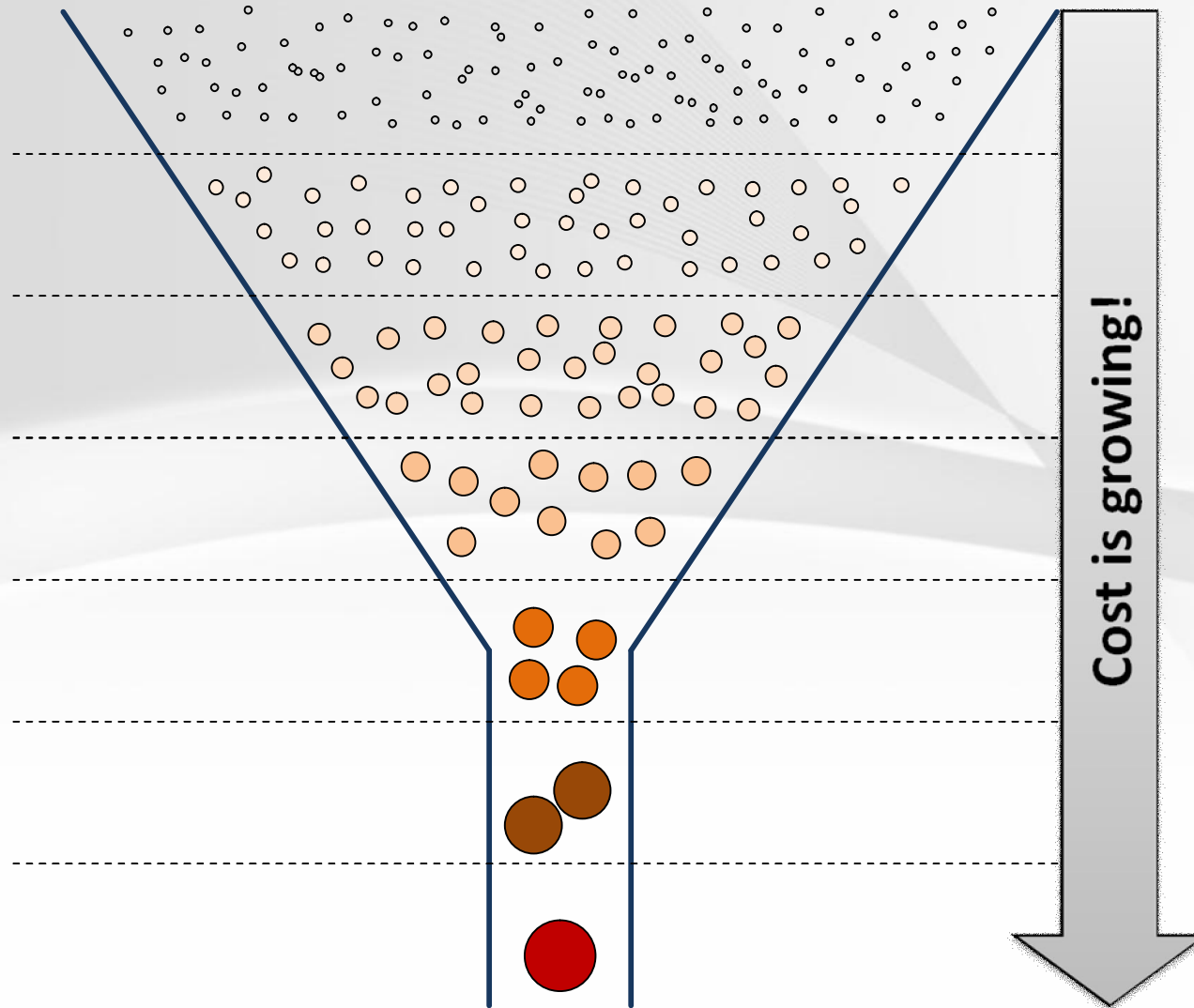
Source: Adapted from Stevens & Burley, 2003

Idea Management Entities



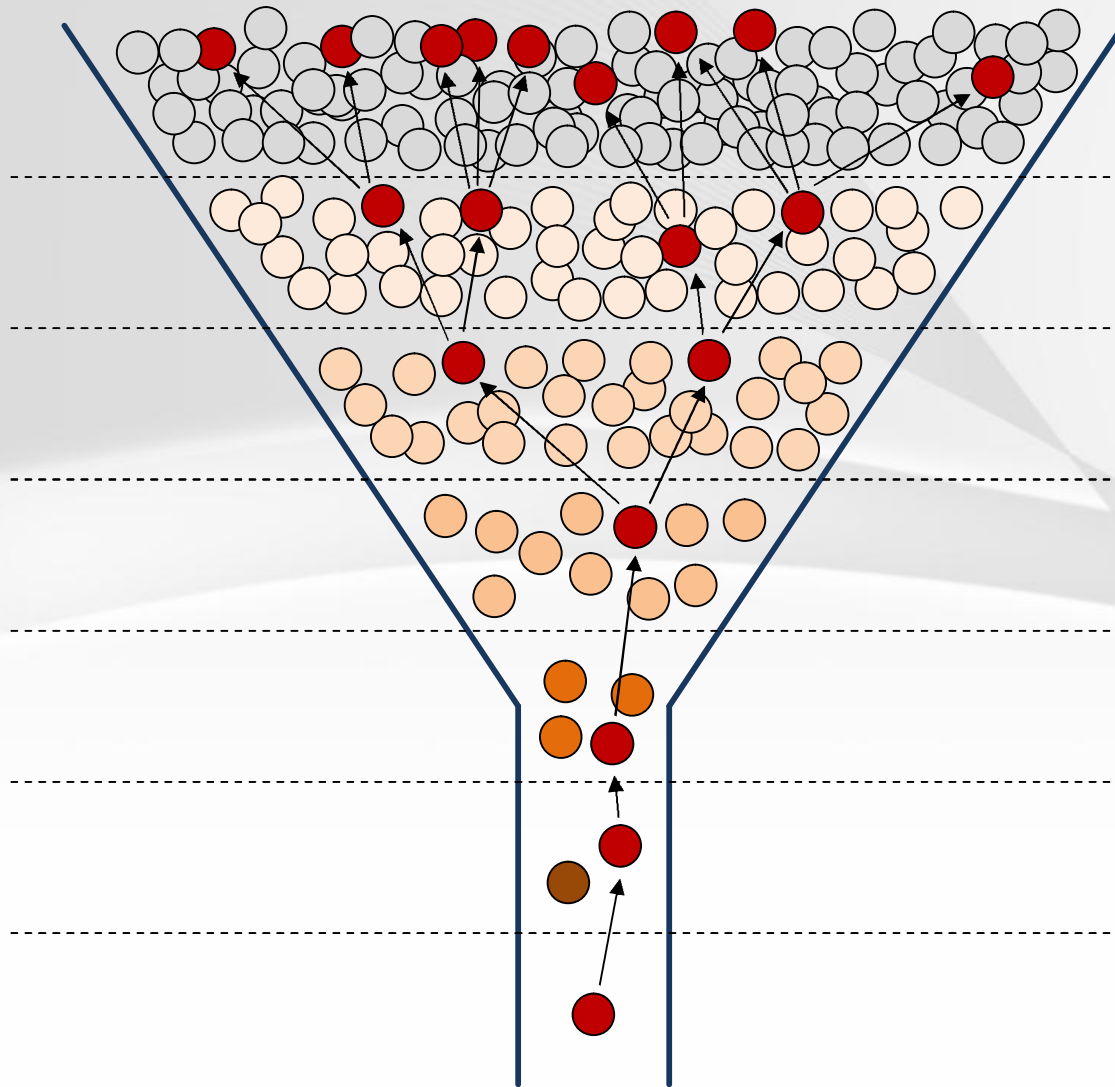
Idea Management

Problem: Costs



Idea Management

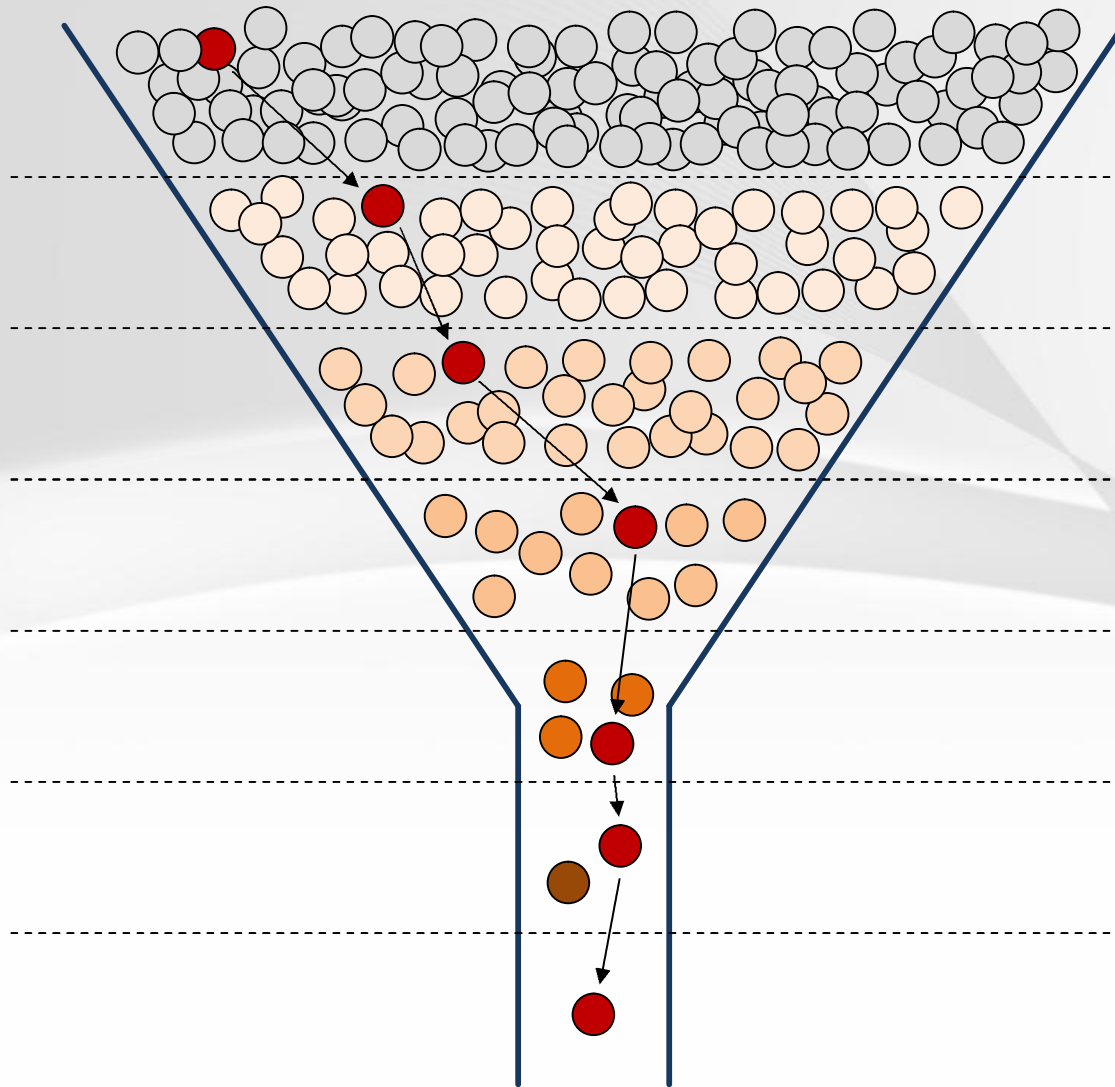
Problem: Idea Backward Traceability



**Ideas were combined
and further developed
before realisation**

Idea Management

Problem: Idea Forward Traceability

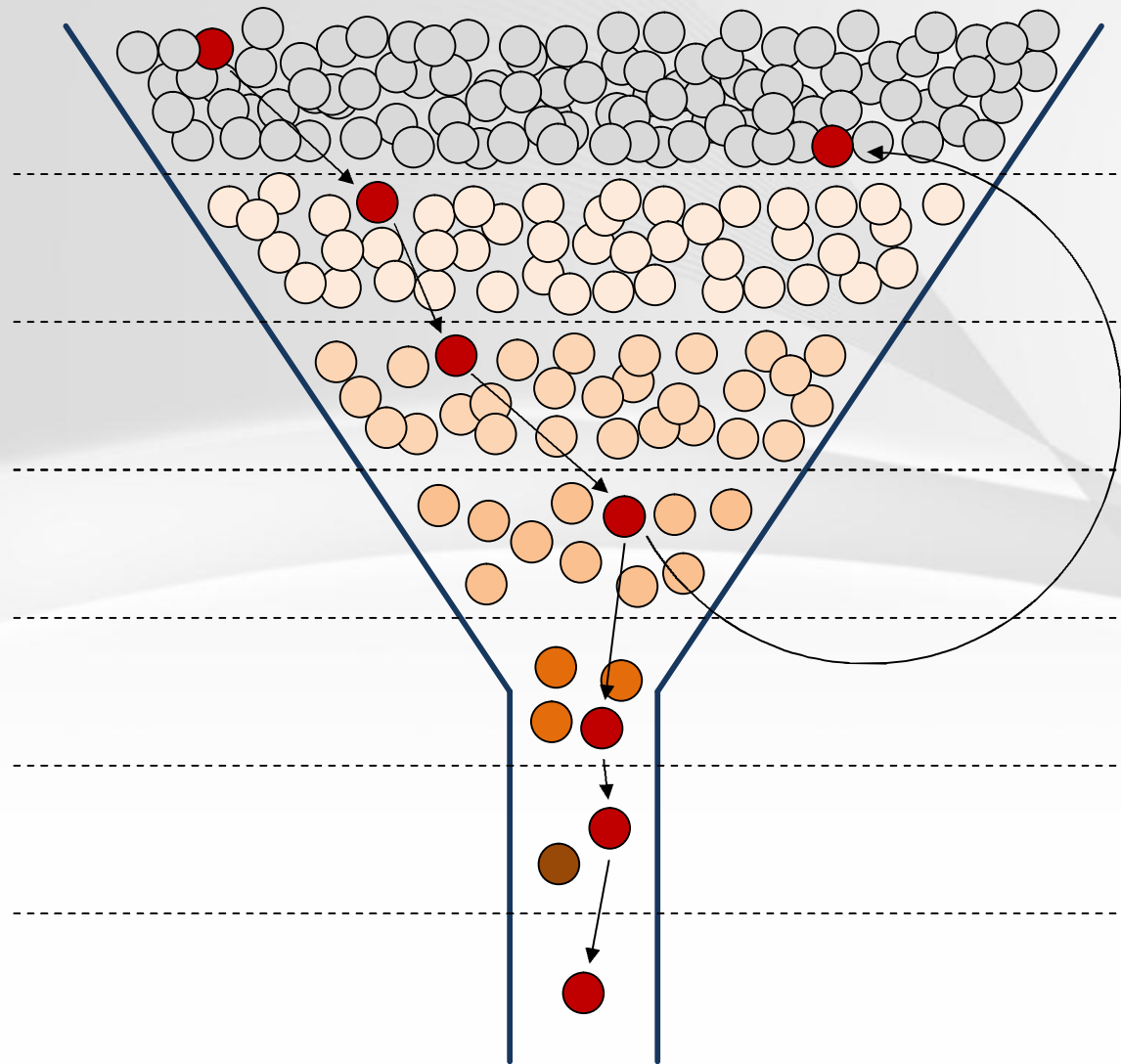


**Ideas are maturing
between birth
and realisation**

**Many ideas are rejected
during the process**

Idea Management

Problem: Idea Forward Traceability

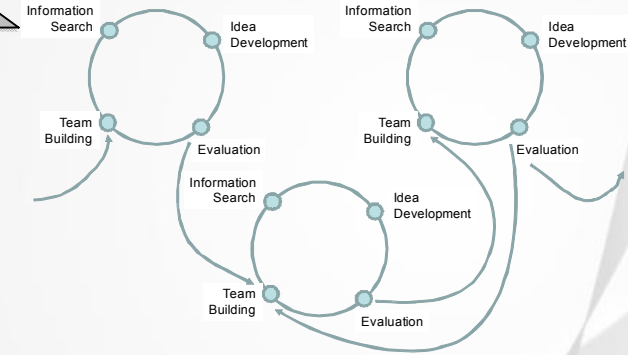
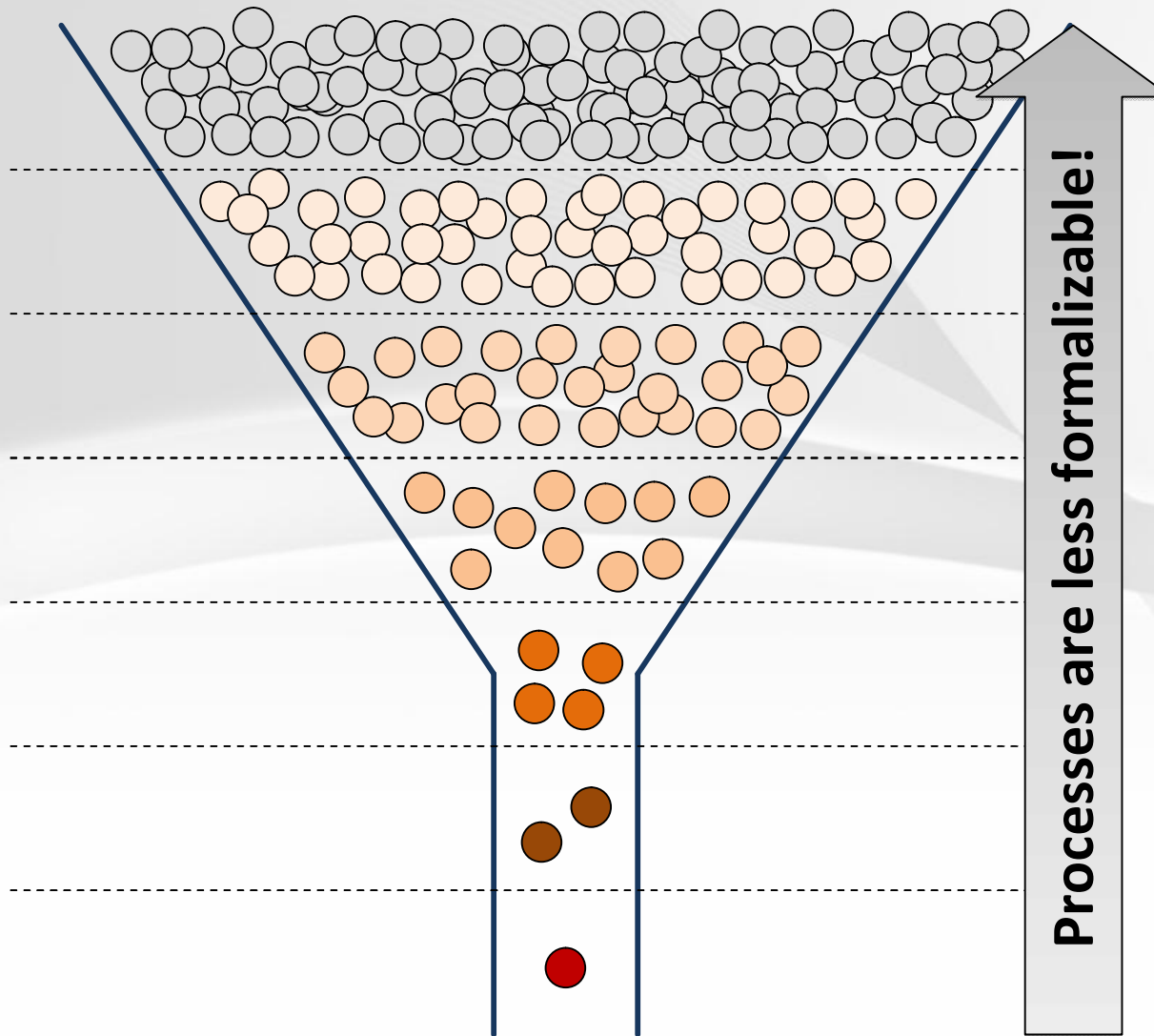


Rejected ideas might be reused during the process

While maturing an idea new ideas are born

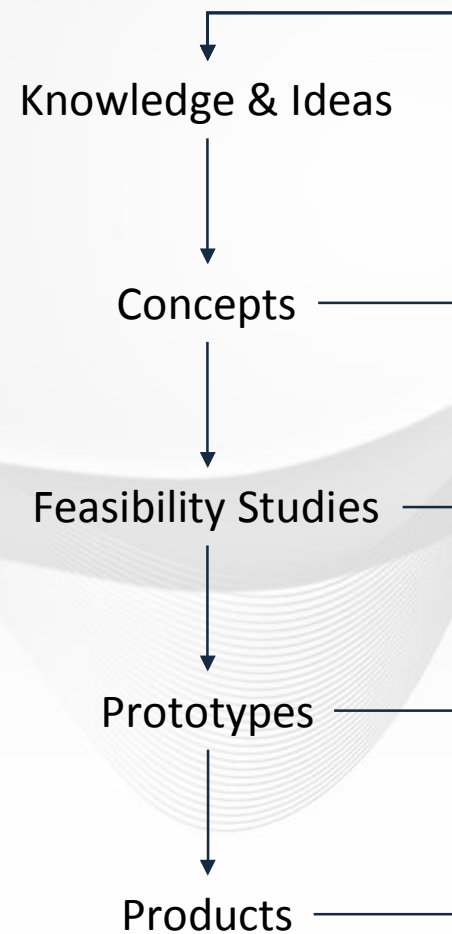
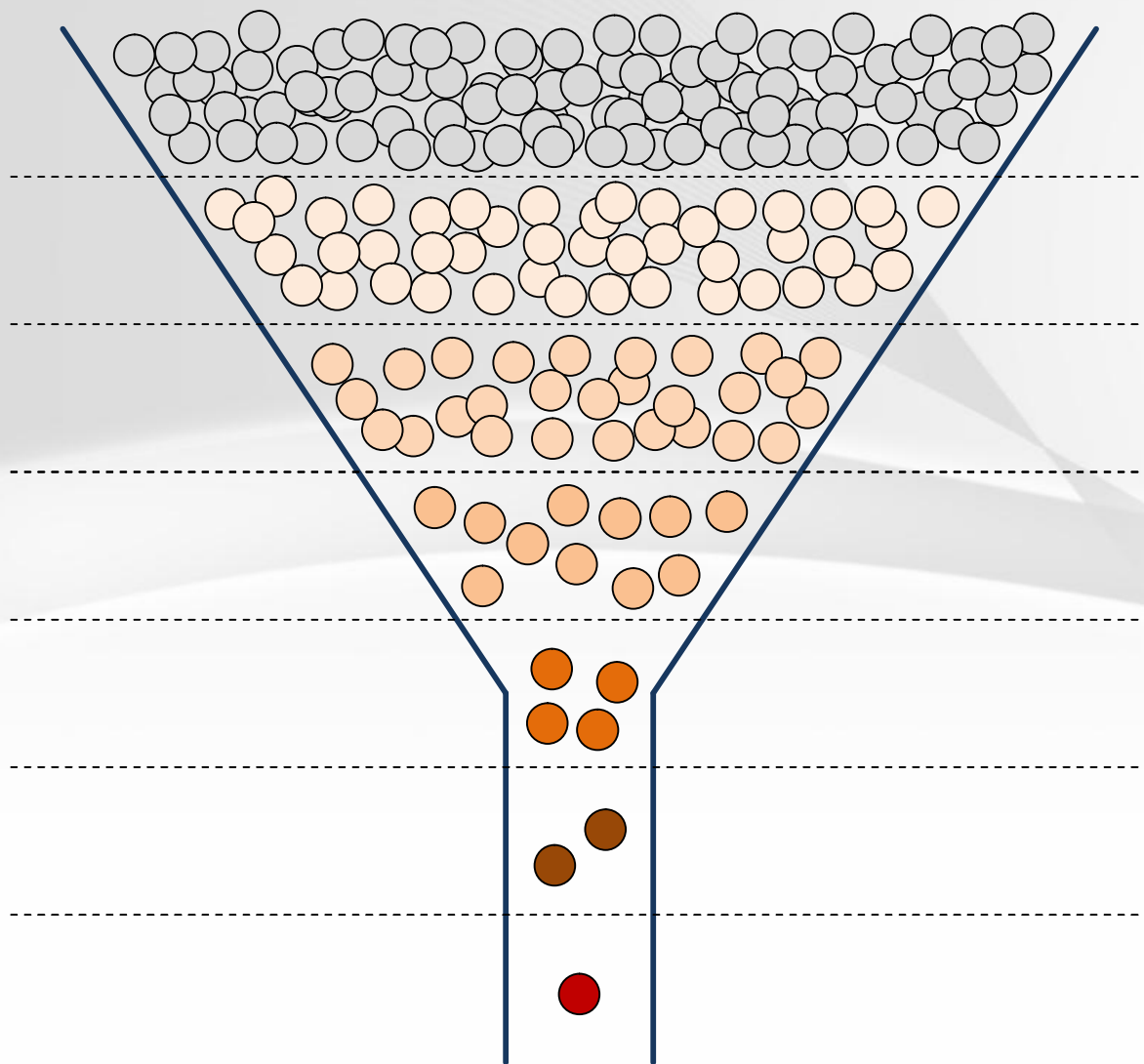
Open Innovation issues

Idea Management Processes



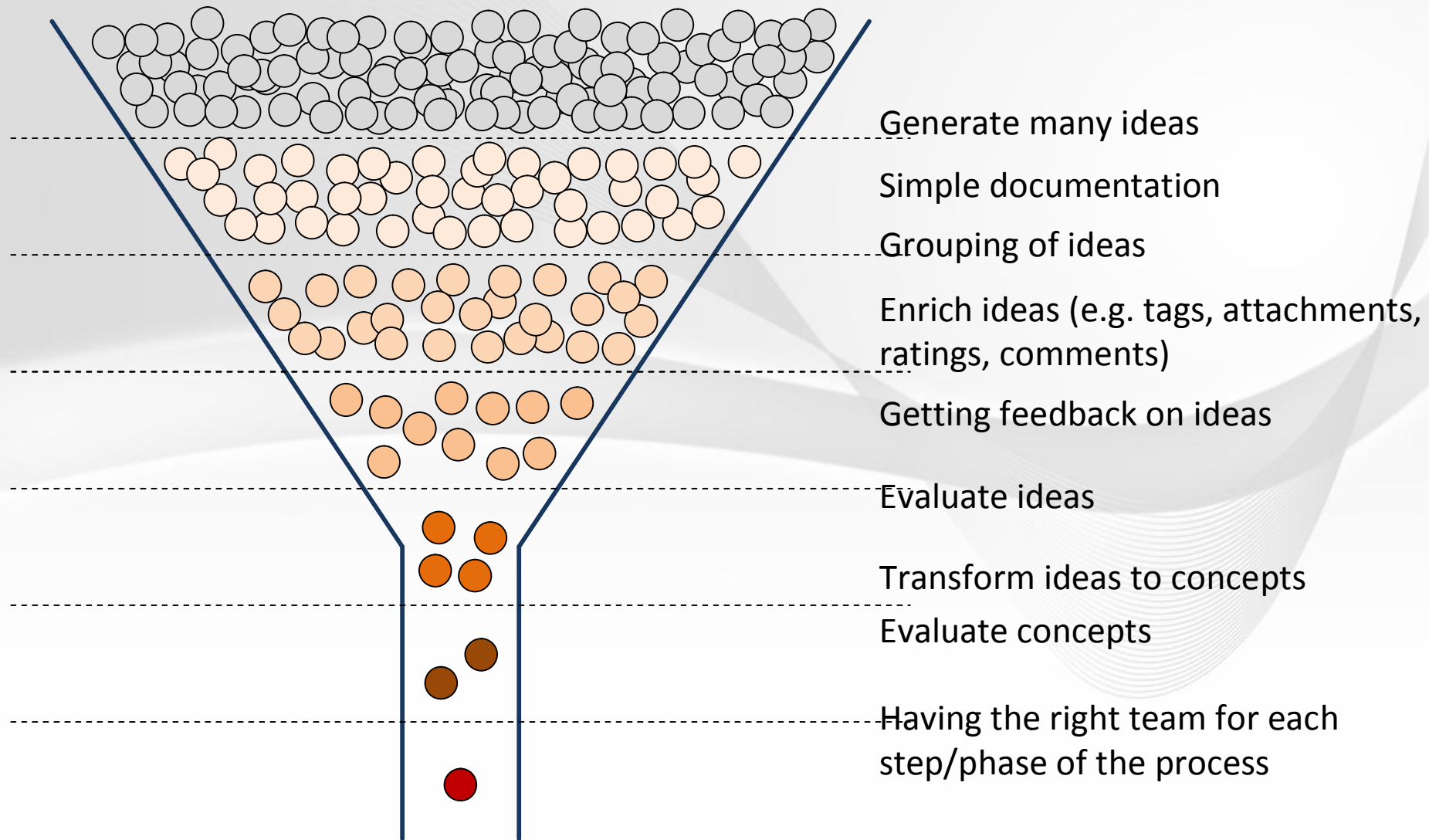
Idea Management

The Life Cycle of Ideas

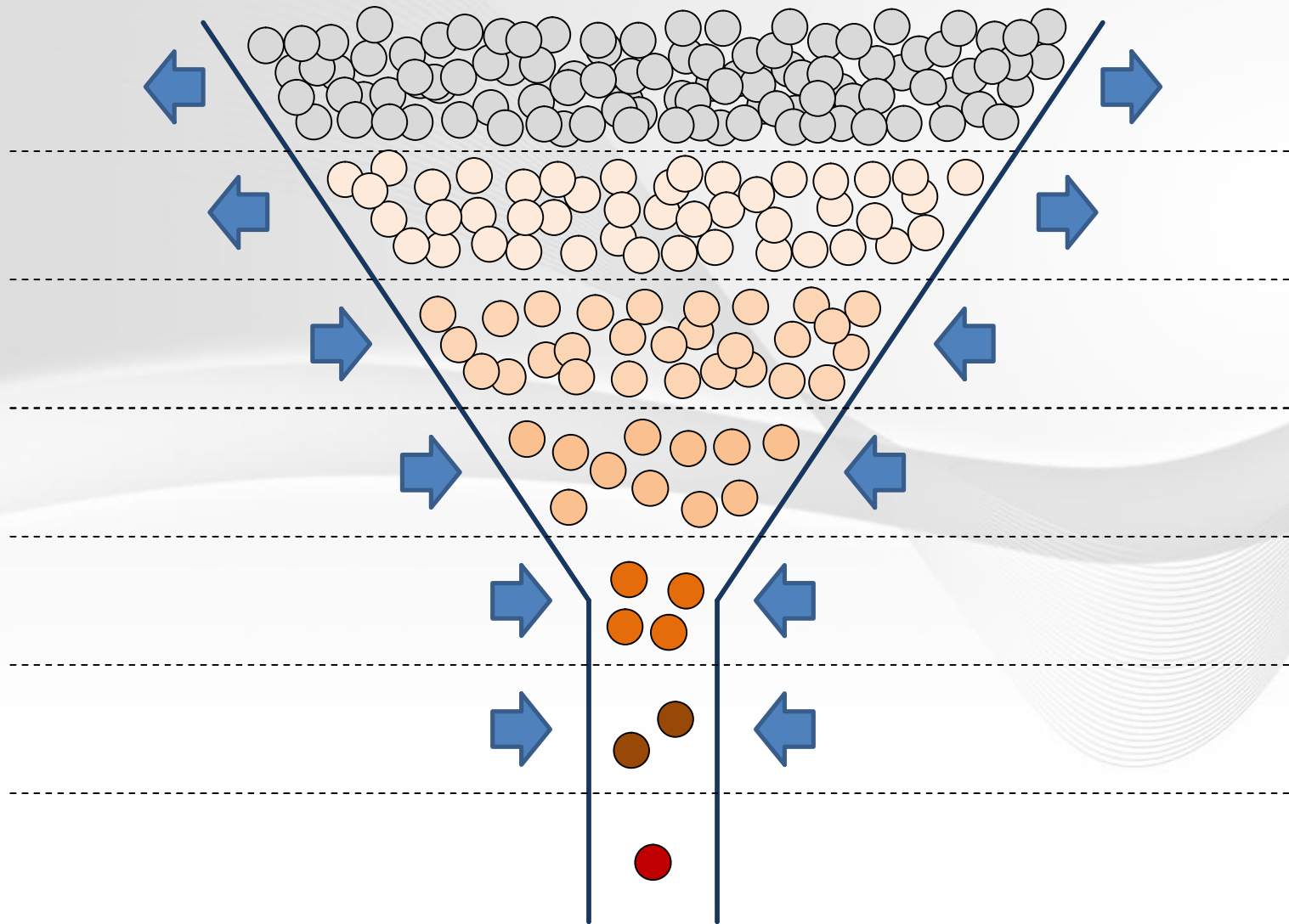


Idea Management

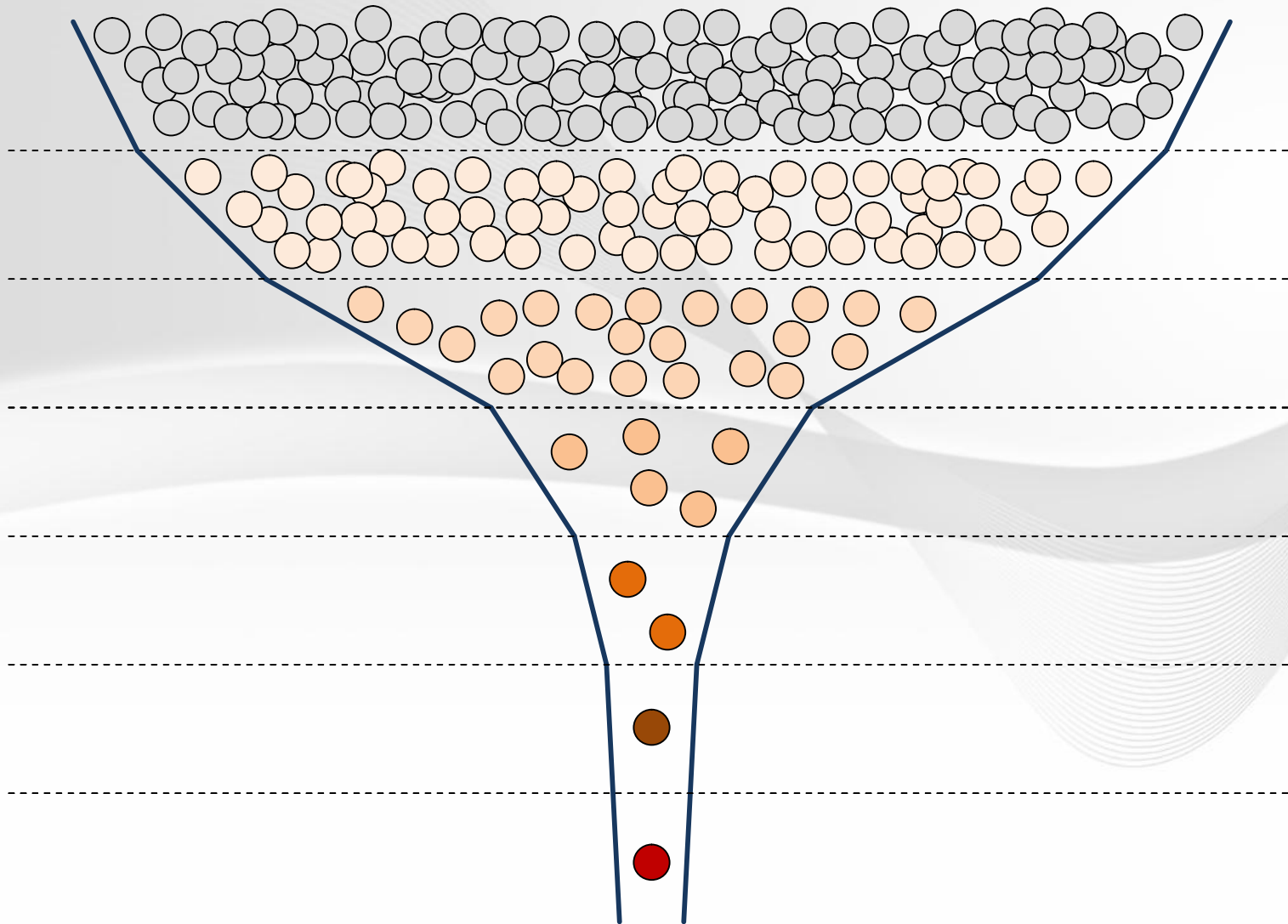
Basic Requirements



Idea Management



Idea Management

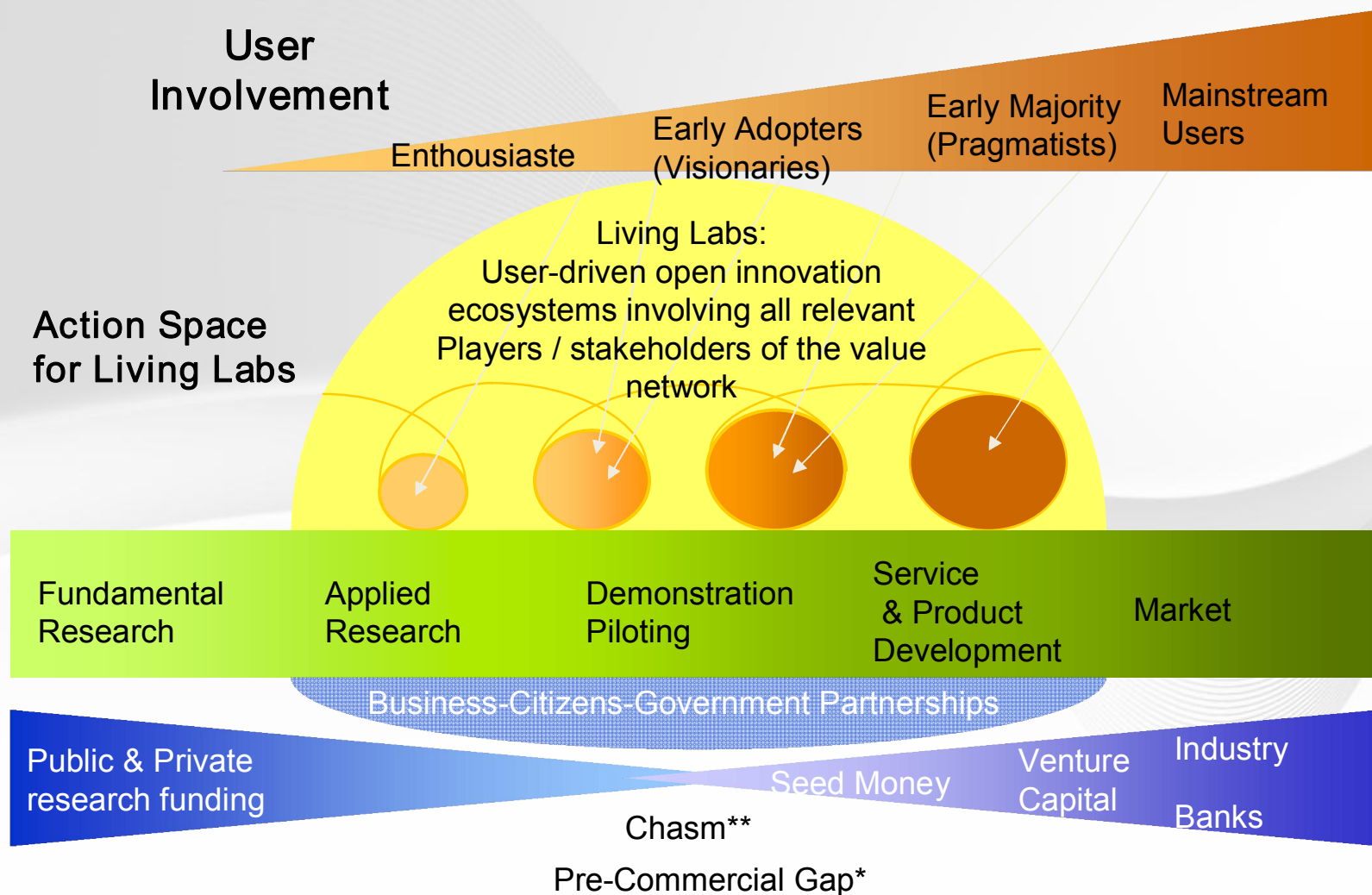


Living Labs



Living Labs

Action Space along the Technology Adoption Cycle



* MacDonald and Associates, 2004

** Geoffrey A Moore: Crossing the Chasm, 1999

Research Directions



Research Directions 1

Global Brain

- The Internet allows to involve many users in creating new and advancing existing ideas
 - How to engage with *Collective Intelligence*
 - How to effectively *Evaluate* the outcomes
- Technology
- Processes

Research Directions 2

Learn to Innovate

- Has long been regarded as an innate attribute of an individual, but it is a *cognitive ability*
- Consequently it is feasible for individuals to improve
- The development of innovation capability *also applies to organisations* as they distil best practice and mature their processes
- Necessity to research new approaches to *competence development*

Research Directions 3

Go Green

- Rather than regarding *sustainability* as an impending hurdle with legal and regularity entanglements, enterprises can embrace it as an opportunity for change and become first movers into new markets.
- The challenge is to research new frameworks that address the challenges of manufacturing enterprises to adopt sustainability as a means to become competitive.

Conclusions & Outlook



Conclusions & Outlook

- The most relevant challenges today are:
 - To organise *collective intelligence* to increase quantity and quality of ideas
 - To have better *evaluation methods* to faster melting down the top prospects
 - To better support the ideation work of knowledge workers by proper *idea management*
- To develop towards *Sustainable Manufacturing* in a globalised world
- To continue and mature the *Living Labs* approach

The background features a gradient from dark blue at the top to light blue at the bottom. On the right side, there are three stylized question marks in a vibrant blue color, each with a white outline and a soft, grey, semi-transparent shadow beneath it. The question marks are arranged in a slightly staggered pattern. The overall aesthetic is clean and professional, typical of a corporate presentation slide.

Thanks for your attention!