Knowledge
Sharing Centre

Manufacturing Technology Conference 2023

Bright society

How to become a manufacturing expert in the blink of an eye

INFORMATION SEEKING

How do we look for information?

Stage 1: Initiation	Identification of the need and the problem
Stage 2: Formulation	Definition of the issue and the keywords
Stage 3: Exploration	Gain knowledge of the topic
Stage 4: Evaluation	Determine which sources of information are the most relevant
Stage 5: Closure	Summarize and report the information to transfer the knowledge

How have our search behaviors evolved over the years?

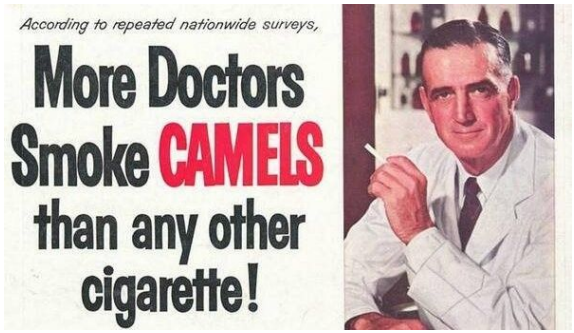
Evolution of information seeking

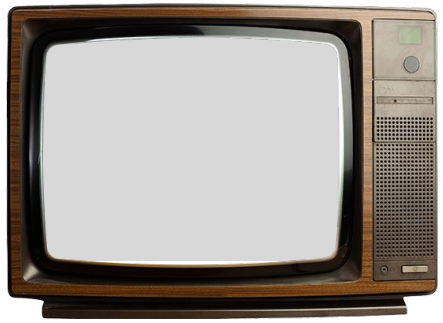
20th century:

Few editors/authors/conferences

High level science but not broadly diffused to the public

Accessing the information is difficult





Evolution of information seeking

21st century:

Development of better search engines

New tools are accessible

Easy access to information

Clarivate Web of Science™

Tik Tok

ELSEVIER

Information sources are biased

YouTube

LinkedIn

Espacenet Patent search

Google

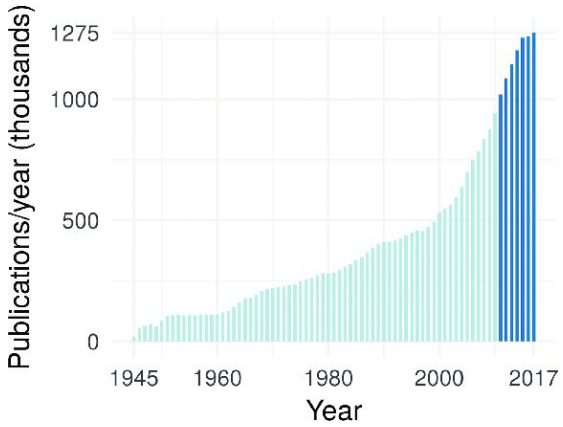
What about scientific research?

21st century:

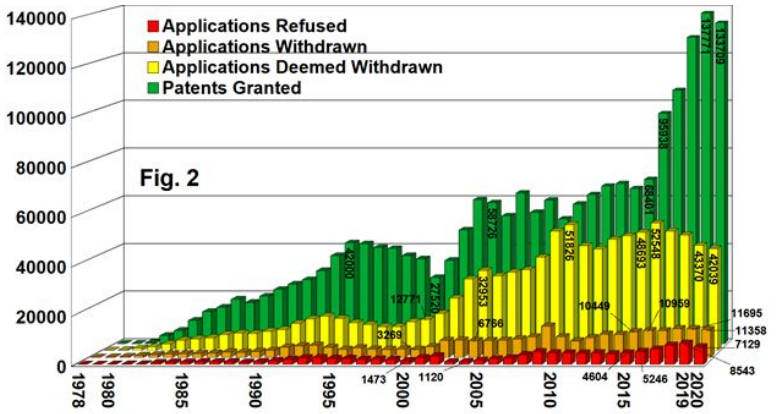
Number of patents/scientific publications follow an exponential trend

Lots of editors/authors/conferences

Rise of open science



Annual rate of biomedical publications



Evolution in the number of patents per year

How to decide what information is of interest ?

TECHNOLOGY SCOUTING

How do you define a problem?

I want to clean external windows of a skyscraper

Traditional technology search

Let's try this instead!

I want to clean external windows → I would like to raise a person in height …

What is technology scouting?

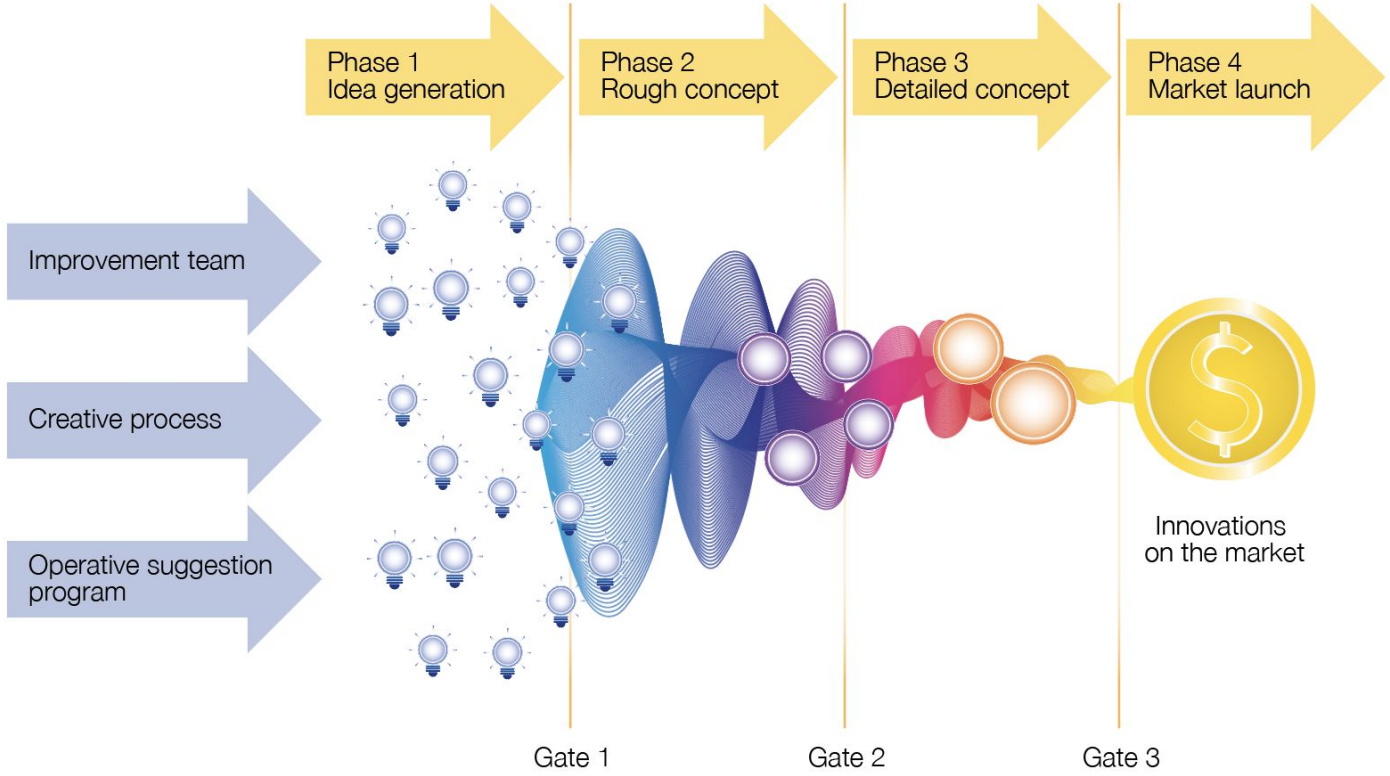
Technology management:

- Identifying emerging tech
- Channeling into an organization
- Supporting the acquisition

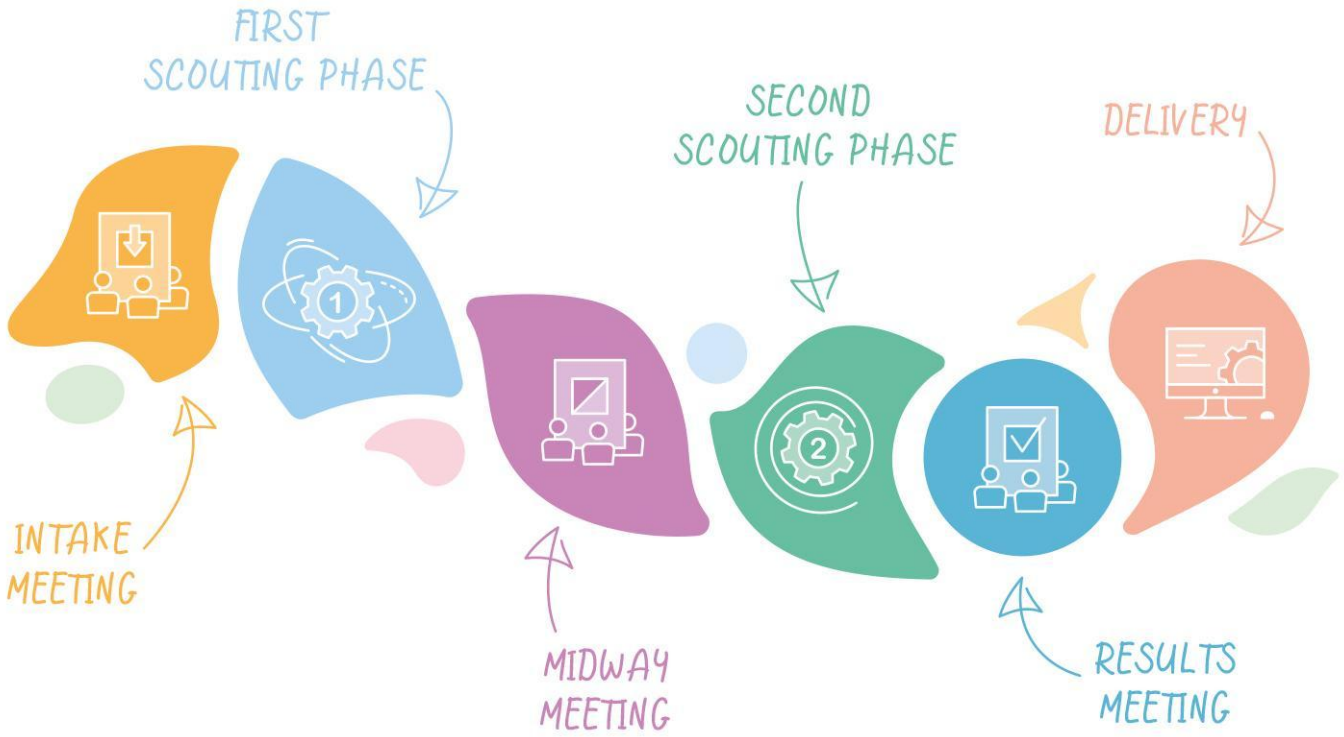
Strategic purposes:

- Technology roadmapping
- Competitive intelligence
- Market overview

Innovation funnel



Bright technology scouting



Methodology

Natural language processing (NLP)

Semantics

Text mining

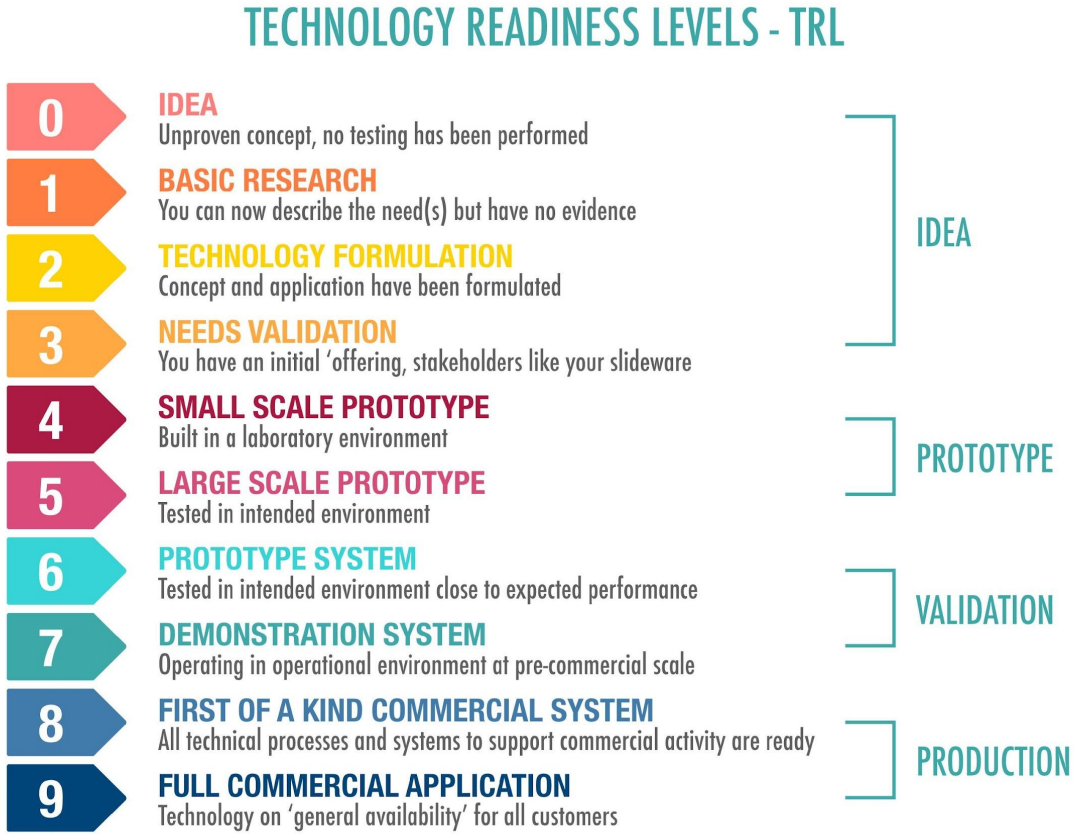
Boolean search

Remember the ladder?

I want to clean external windows → I would like to raise a person in height

Database

- Research grants, publications, patents
- Clinical trials, SEC filings
- University opportunities
- Web documents
- Startups and company websites



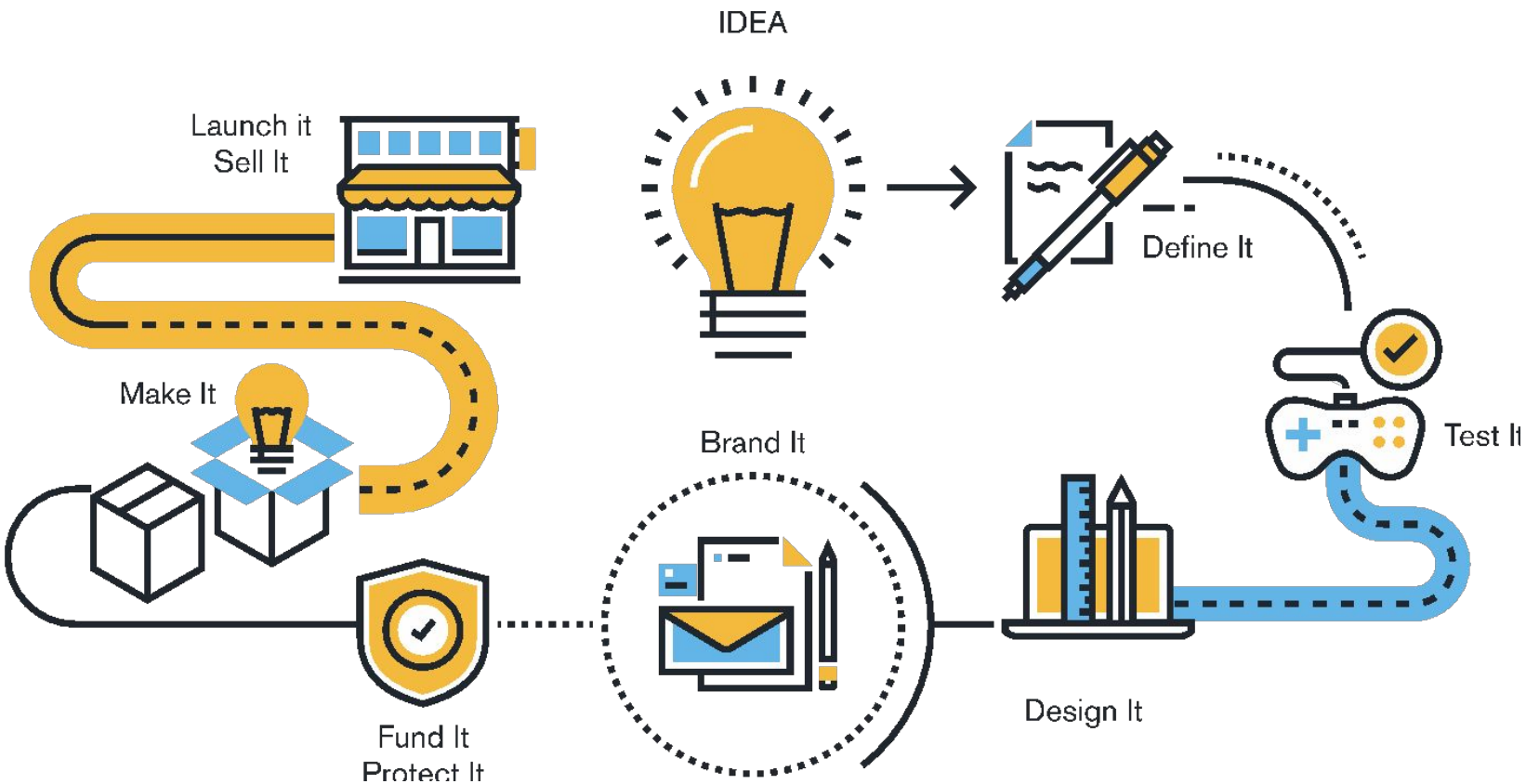
Data safety

Deliverables

Advantages

- Confidential and secure
- Not dependent on # of clicks
- Fast and cost effective
- Reduces noise
- Provides
  - ✓ Maturity assessment
  - ✓ Supplier overview
- Enables
  - ✓ Open innovation
  - ✓ Strategic decisions
  - ✓ Technology management

Accelerate product development



Why technology scouting?

	Traditional Technology search	**New generation Technology scouting**
Timeline	3-6 months	2-6 weeks
Time investment	High	3 hours of your team
Cost	High	Low
Effectiveness	Low / Medium	High
Bias results	High	Low

THE IMPORTANCE OF SOFT SKILLS

Statements

- The more knowledge you have on a specific topic, the better you are at it.
- Self awareness is key for high performance engineers.
- In the future, critical thinking will increasingly be done for us by computers.

KG = AM x AV x SoD

Knowledge Growth = AMount of data x AVailability of data x Speed of Development

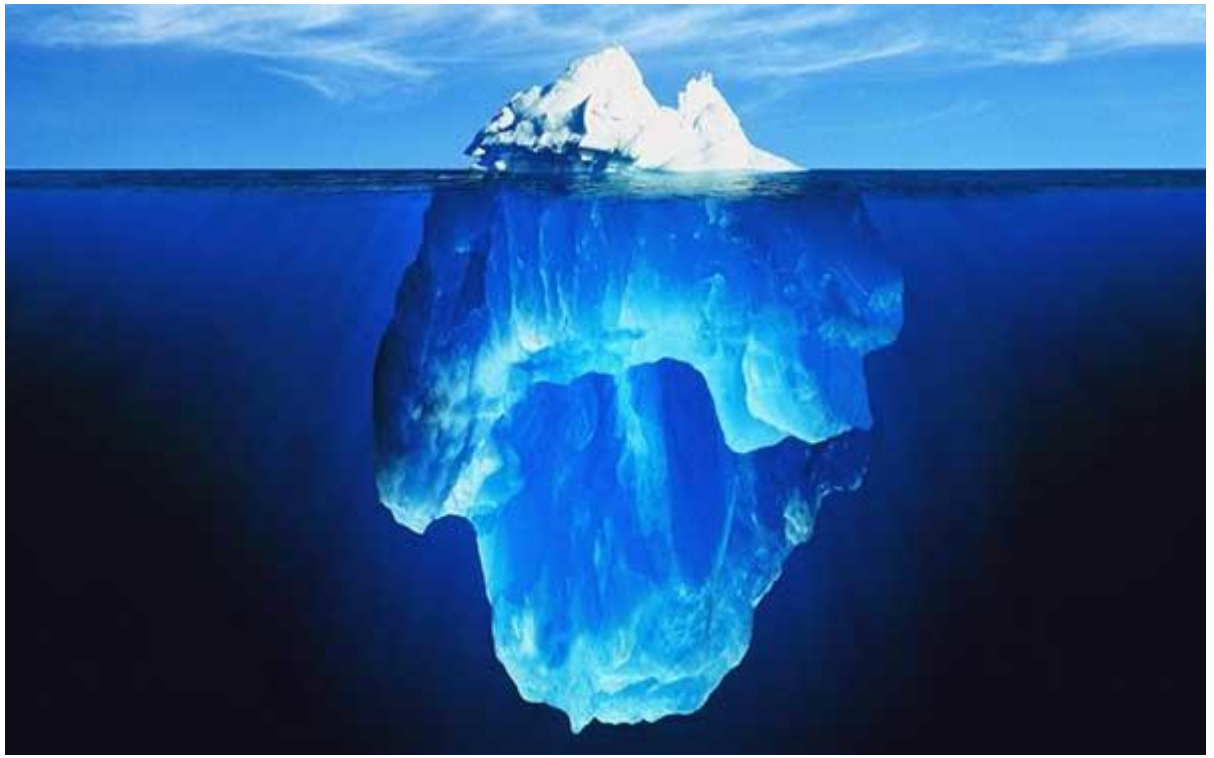
Top 10 skills of 2025

Type of skill

- Problem-solving
- Self-management
- Working with people
- Technology use and development

Source: Future of Jobs Report 2020, World Economic Forum.

Iceberg McClelland



SHRM®

BETTER WORKPLACES
BETTER WORLD™

Nearly half of university graduates already have the right hard skills they need to enter the jobmarket but lack skills in problem solving, teamwork, business insight and leadership

46% of new hires fail within the 1st 18 months

No less than 89% of these newcomers fail due to a lack of soft skills

https://www.shrm.org/resourcesandtools/hr-topics/employee-relations/humanity-into-hr/pages/covid-19-soft-skills-at-work.aspx

HARVARD
UNIVERSITY

Return on Investment of 256%

12% increase in team productivity

https://crestcom.com/blog/2020/07/07/soft-skills-development/

Statements

- The more knowledge you have on a specific topic, the better you are at it.
- **Self awareness is key for high performance engineers.**
- In the future, critical thinking will increasingly be done for us by computers.

Takeaways

- If you don’t start doing things differently, you will be overwhelmed by the amount of knowledge.
- The future engineers need to focus on the development of skills like analytical thinking, complex problem solving and critical thinking.
- If you want real added value for your company, the key is to recognize the value of soft skills

Thank you

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Sharing Centre **Academy**

Knowledge
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Knowledge
Sharing Centre **Projects**

The KSC is the connector between companies from the design and manufacturing industry, which bundles knowledge in an accessible way to achieve joint growth and collaborations on a trusted basis.

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Thanks for your attention

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Open platform for knowledge sharing with first members:

ASML · ThermoFisher SCIENTIFIC · hi holland innovative · MIKRO CENTRUM at the heart of hightech · INNOVOX & Partners A Vomocom B.V. Company