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Scuola Universitaria Superiore Pavia



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Introduction to technology transfer

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W Blue skies research - Wikipedia x +

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Blue skies research

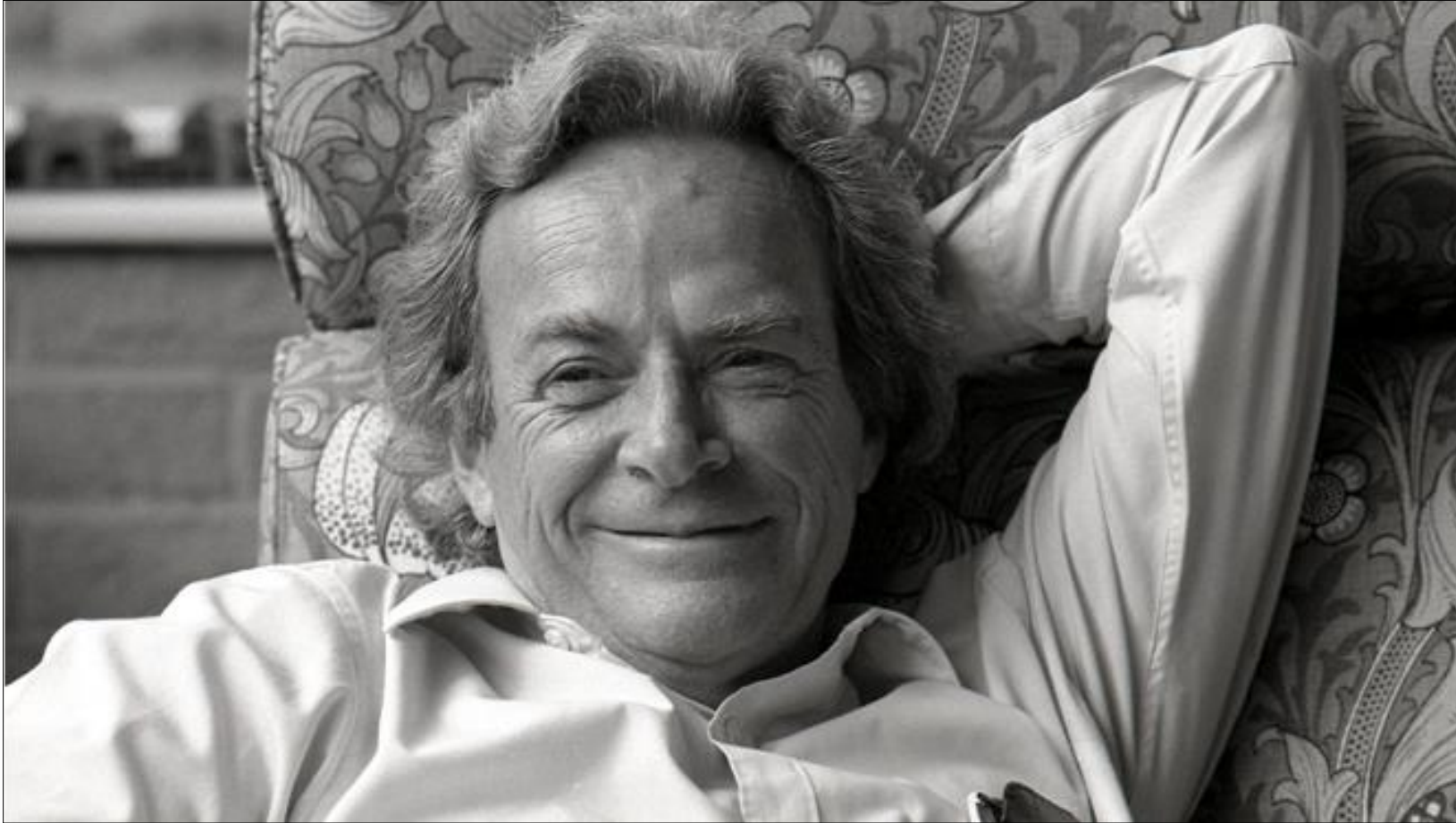
From Wikipedia, the free encyclopedia

Blue skies research (also called **blue sky science**) is scientific research in domains where "real-world" applications are not immediately apparent. It has been defined as "research without a clear goal"^[1] and "curiosity-driven science". It is sometimes used interchangeably with the term "**basic research**".^[2] Proponents of this mode of **science** argue that unanticipated scientific breakthroughs are sometimes more valuable than the outcomes of agenda-driven research, heralding advances in **genetics** and **stem cell** biology as examples of unforeseen benefits of research that was originally seen as purely theoretical in scope. Because of the inherently uncertain **return on investment**, blue-sky projects are politically and commercially unpopular and tend to lose funding to more reliably profitable or practical research.^[3]

Contents [hide]

- History

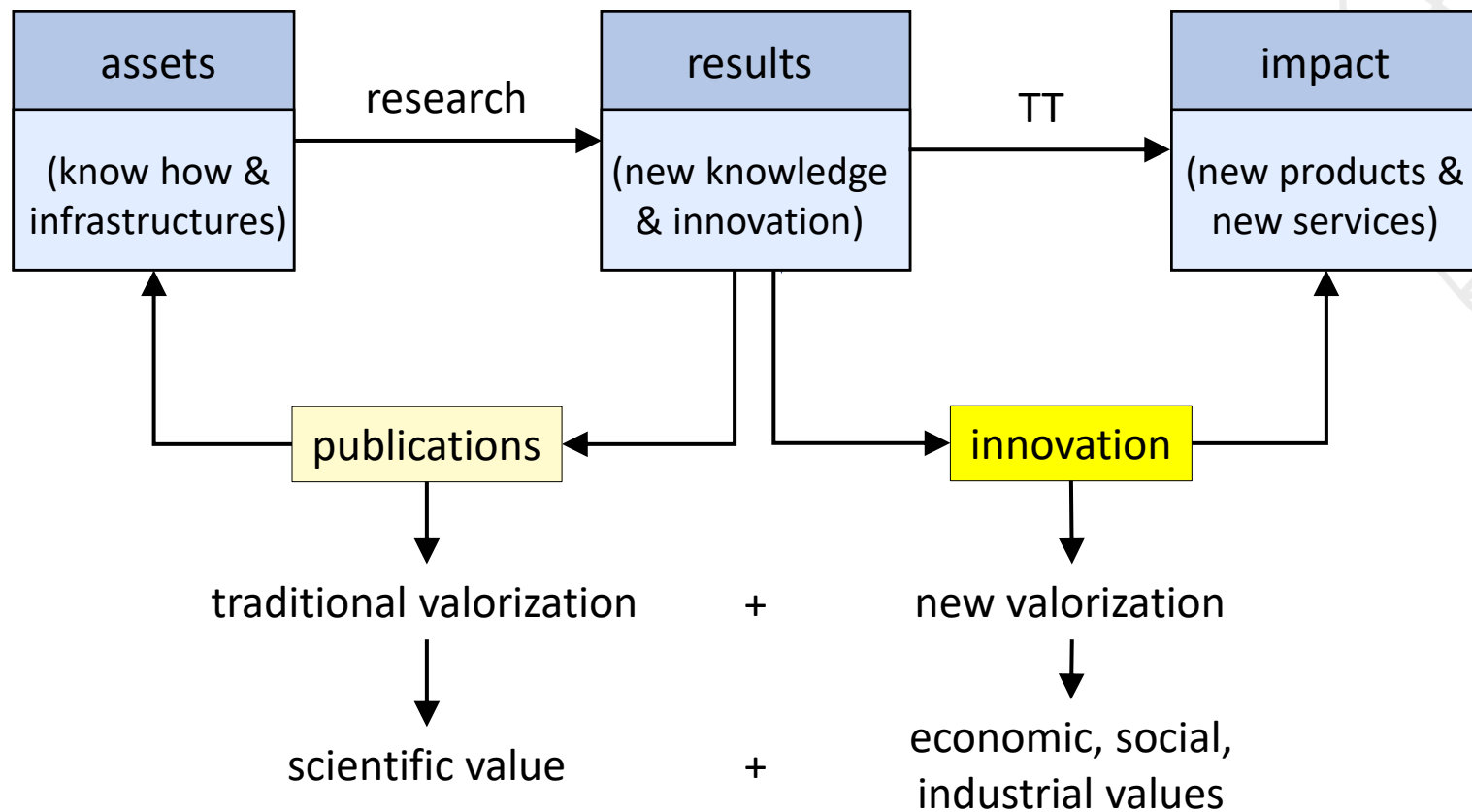
...application is not a motivation for research, but is among the consequences

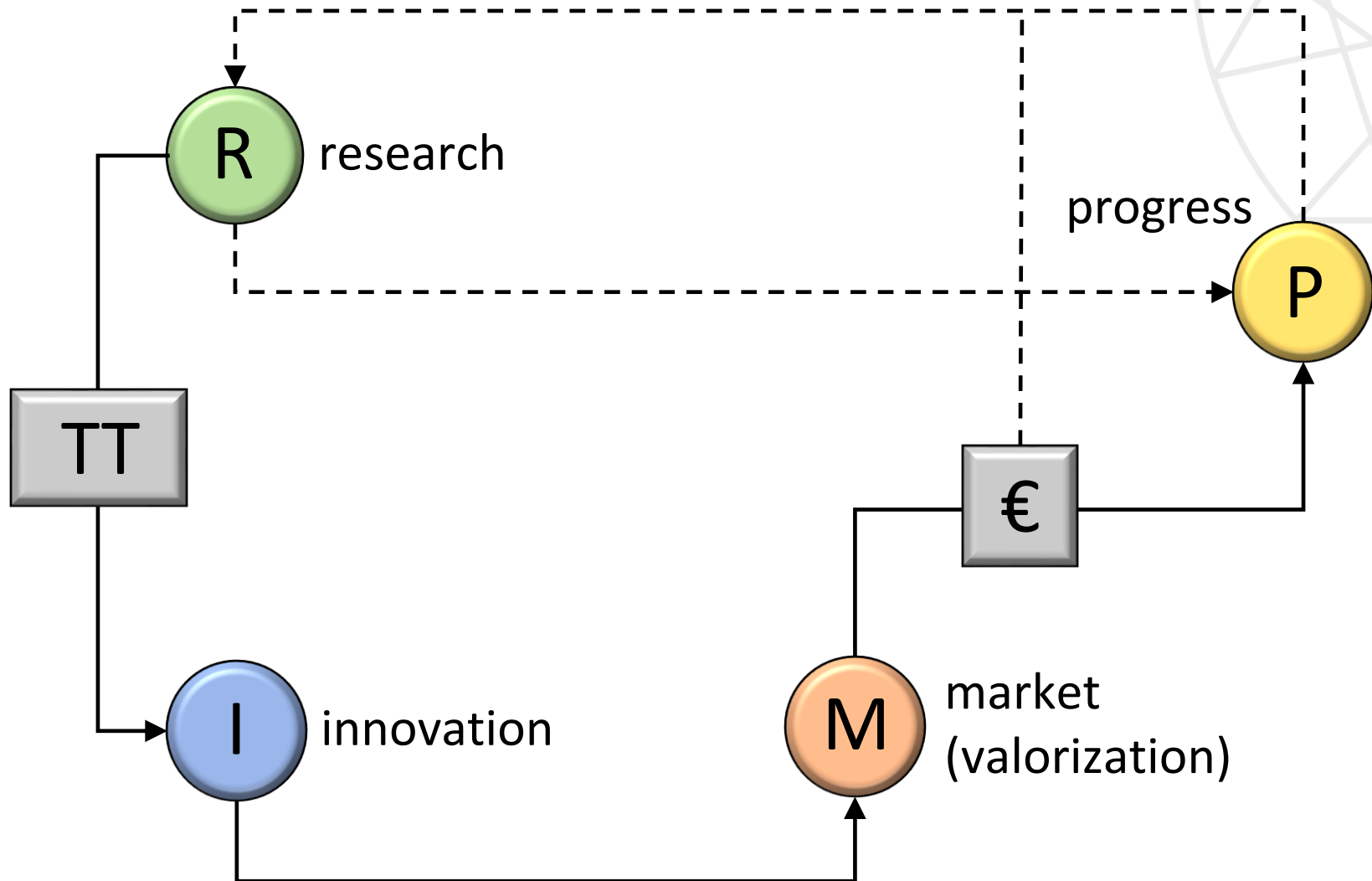


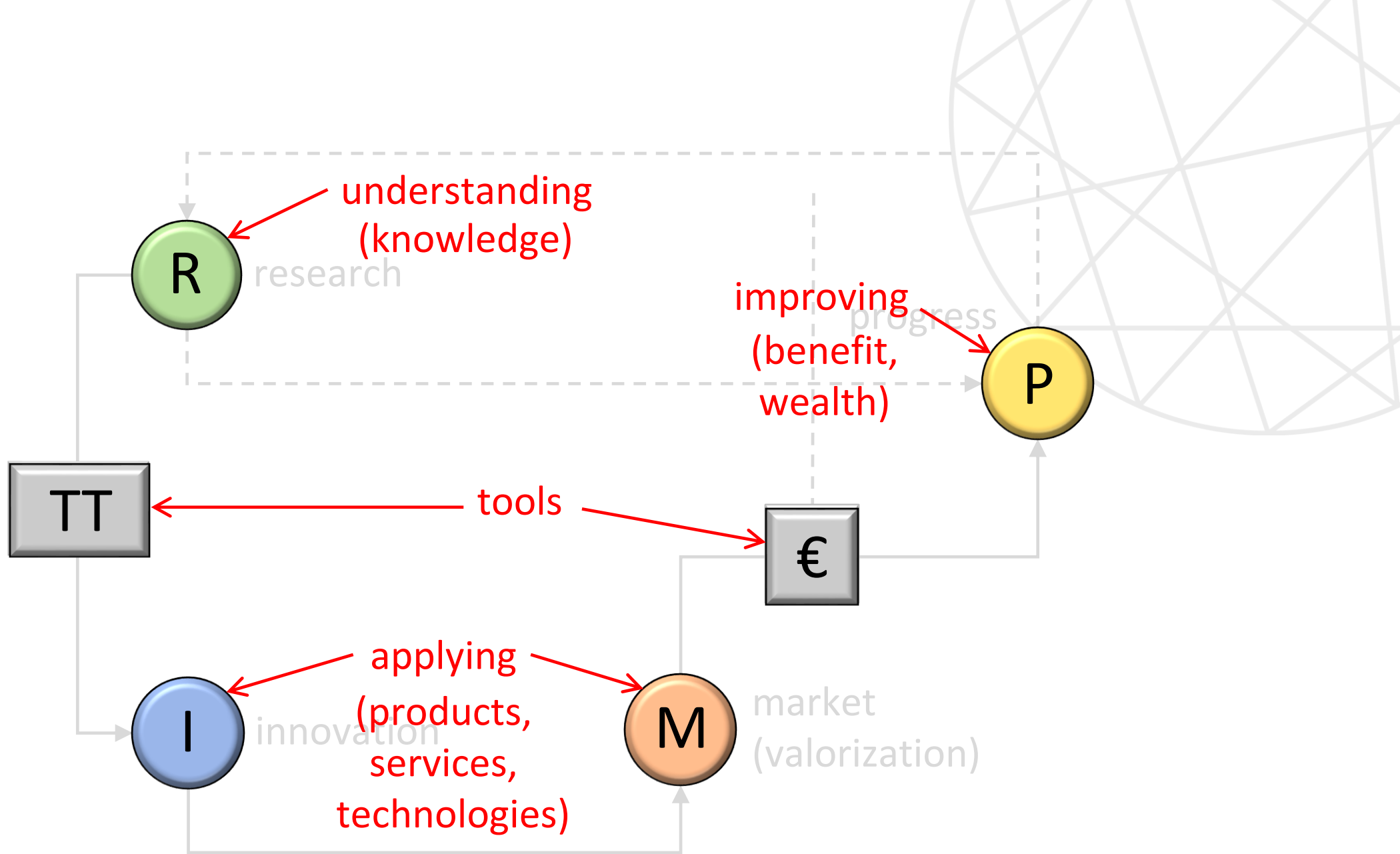
Richard Feynman
Nobel Prize in Physics 1965

“Physics is like sex.

Sure, it may give some practical results, but that’s not why we do it.”

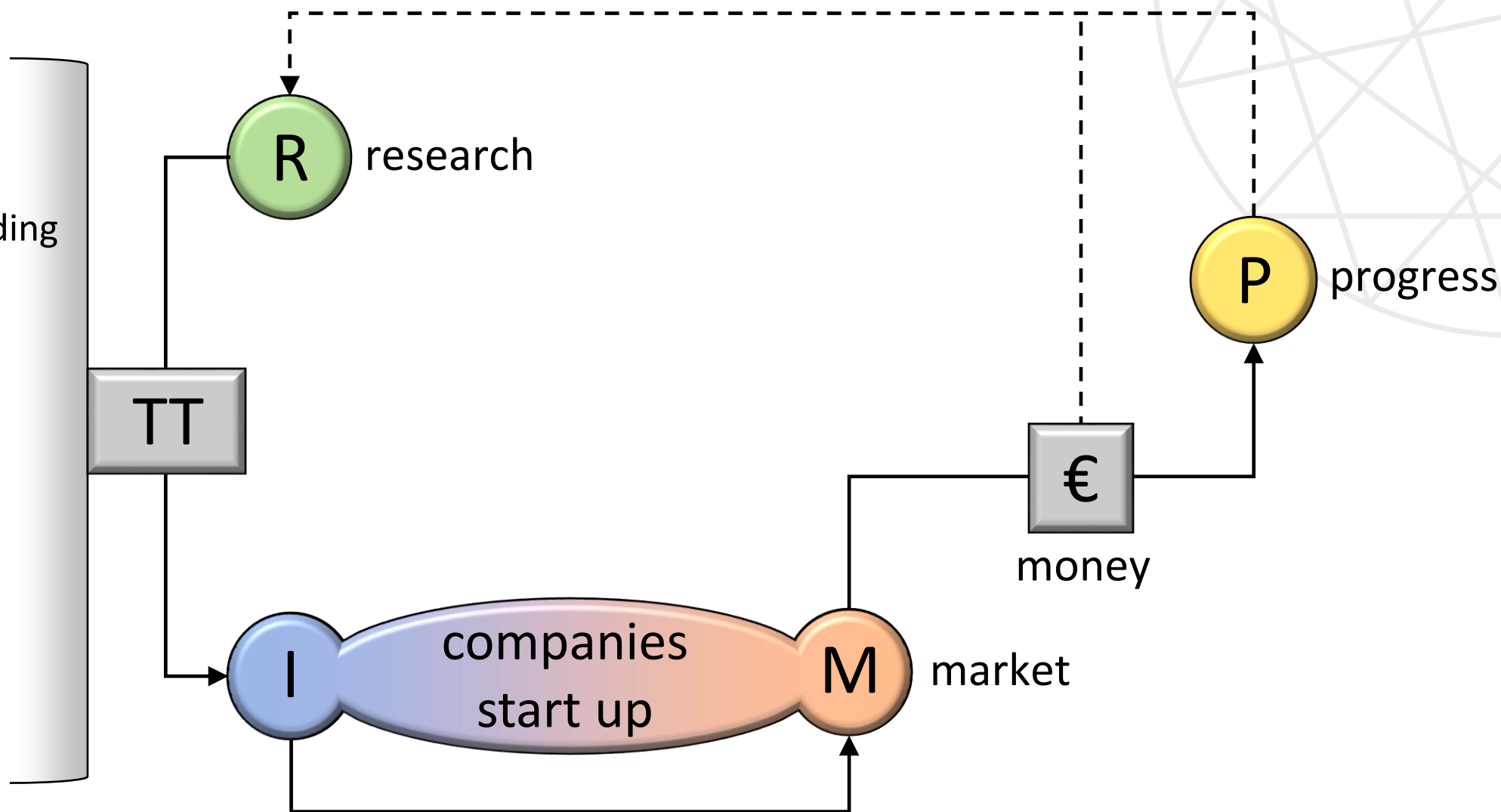




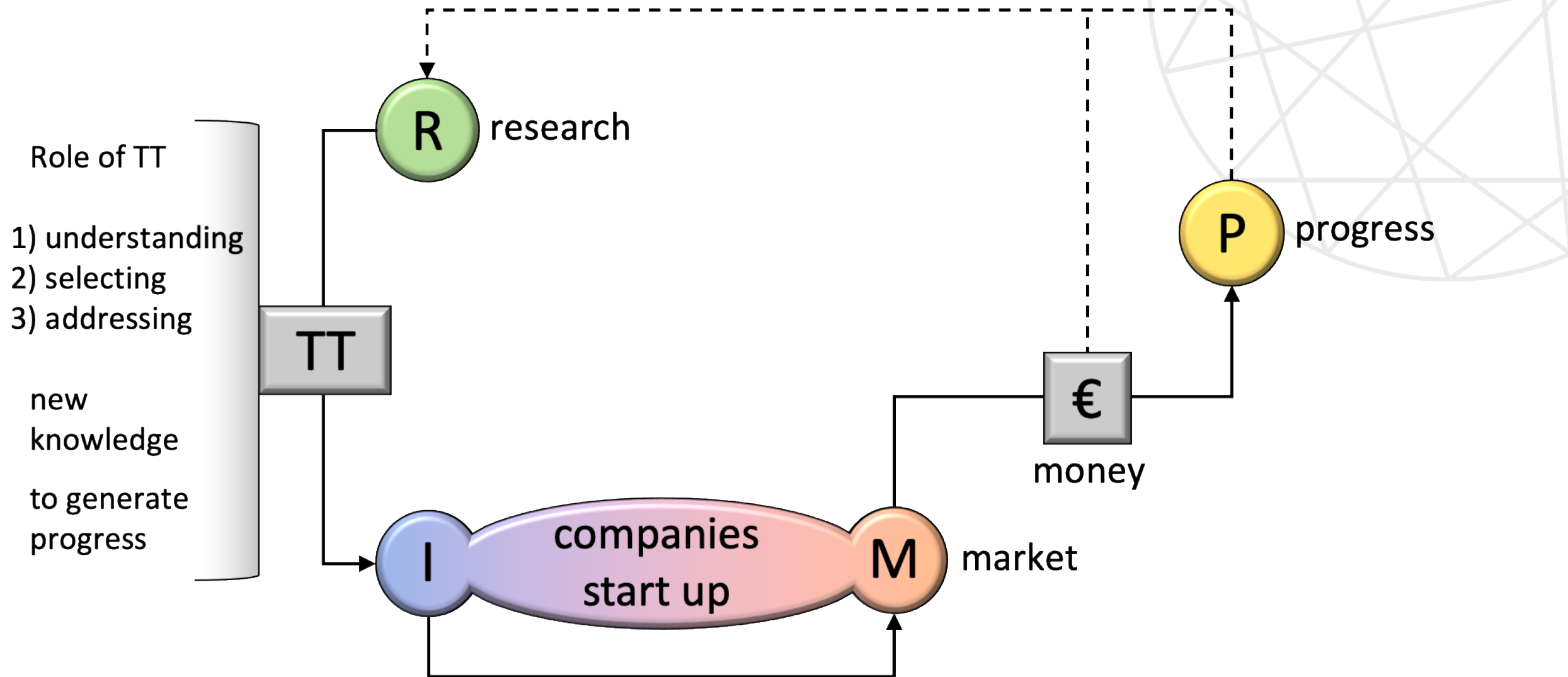


Role of TT
1) understanding
2) selecting
3) addressing

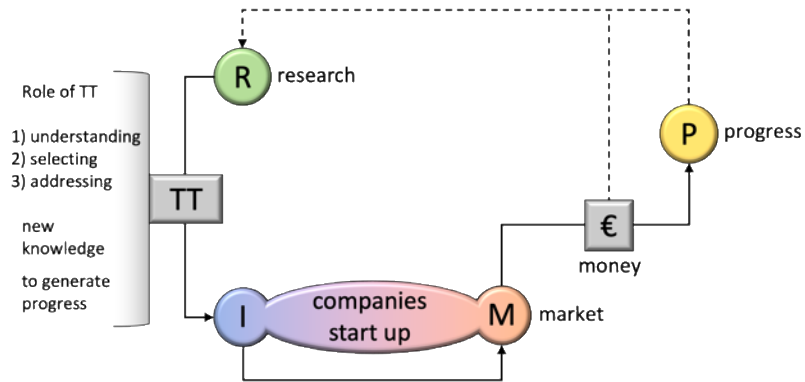
new
knowledge
↓
to generate
progress



Old paradigm → Technology Transfer



Old paradigm → Technology Transfer



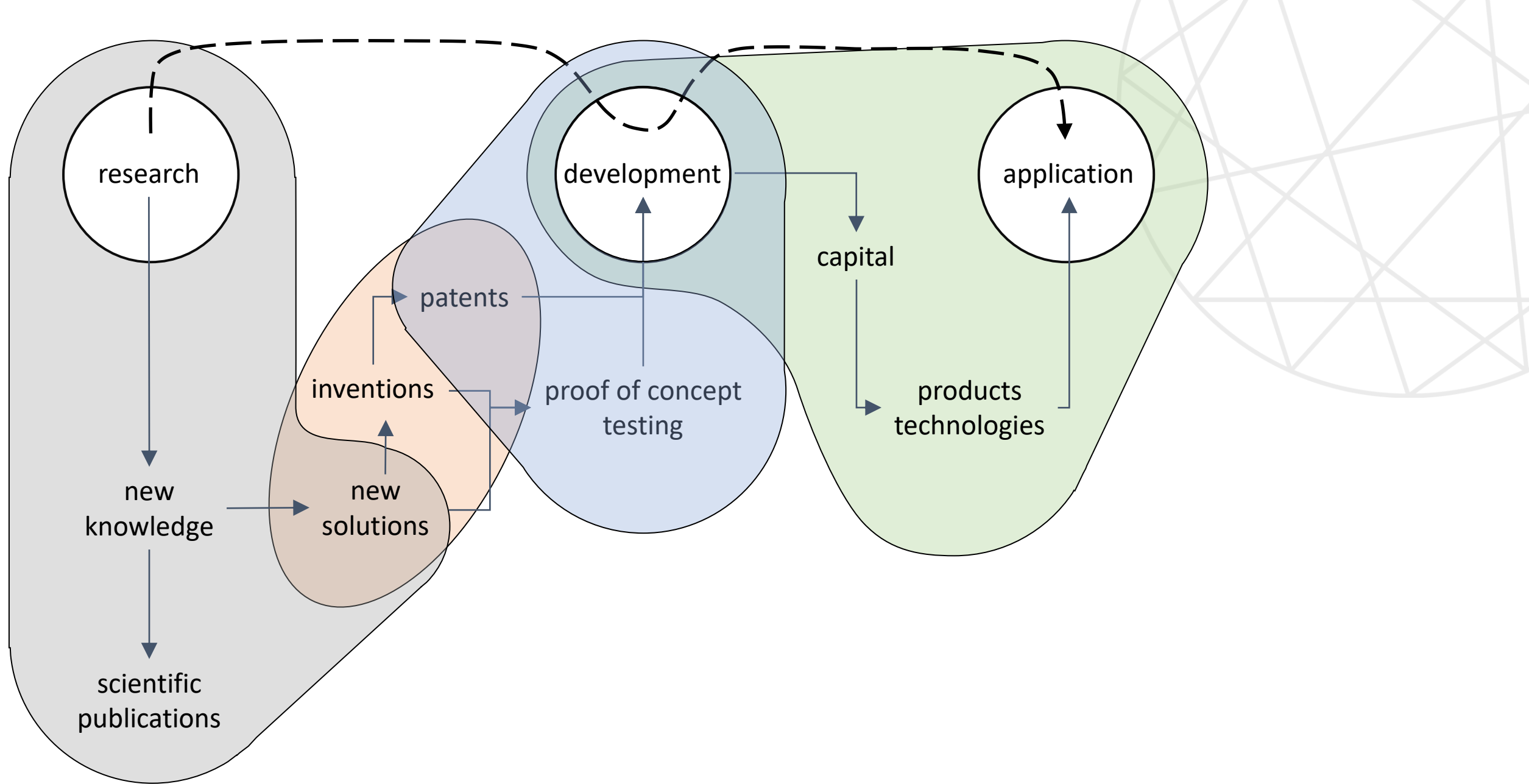
Knowledge Transfer

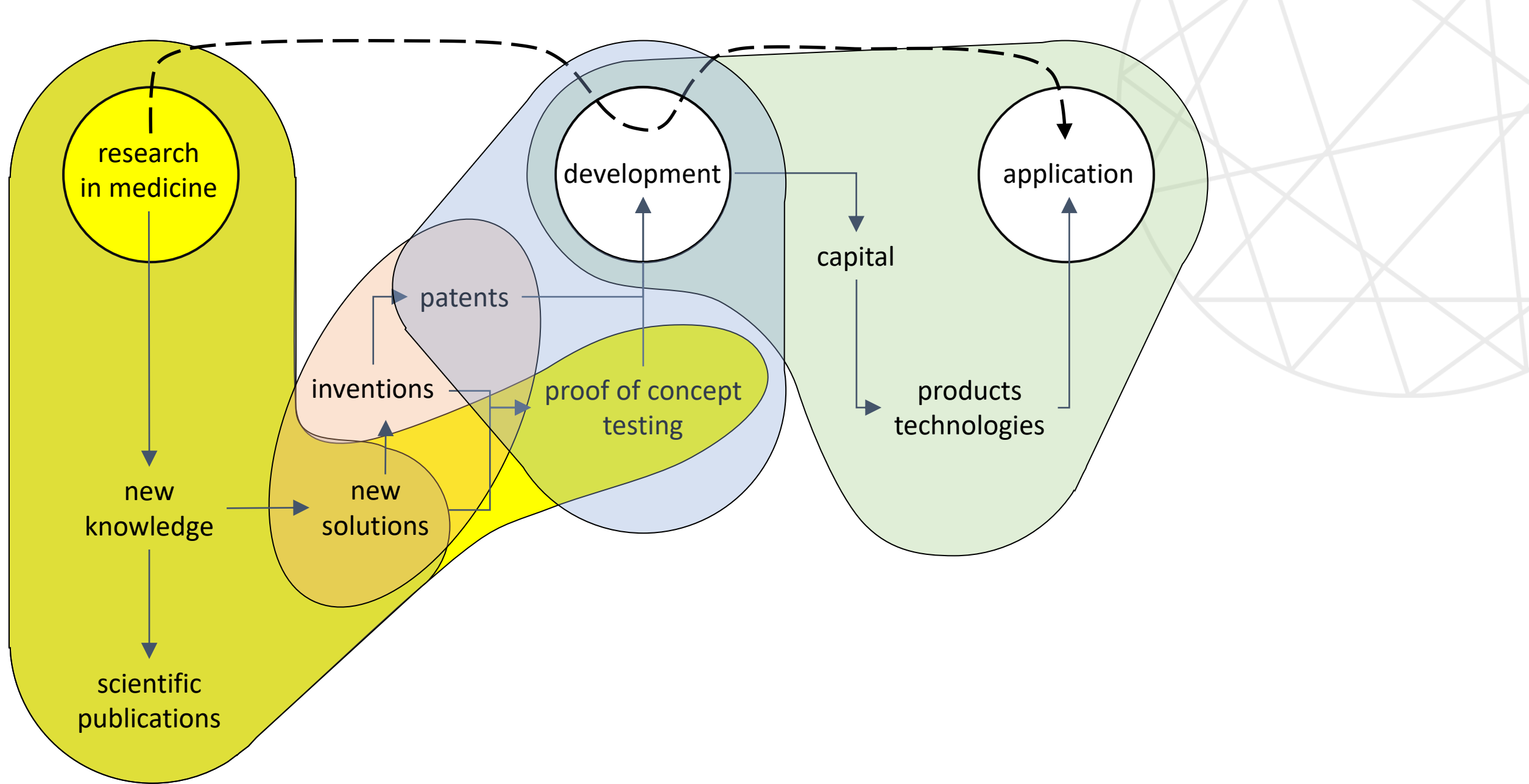
Knowledge Exchange

Cooperation among actors (researchers, students, institutions, companies) to generate the impact of research results in society.

Knowledge Transformations

Combinations of different research results to generate impact addressing innovation to solve complex problems. The knowledge transformation is a development activity which generates value both from research results and know how.





1. Medical technology



14 295
+2.6% ↑

2. Digital communication



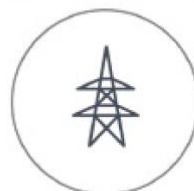
14 122
+1.0% ↑

3. Computer technology



13 097
+1.9% ↑

4. Electrical machinery, apparatus, energy



11 346
+0.4% ↑

5. Transport



9 020
-5.5% ↓

6. Pharmaceuticals



8 589
+10.2% ↑

7. Measurement



8 582
-5.2% ↓

8. Biotechnology



7 246
+6.3% ↑

9. Other special machines



6 261
-2.5% ↓

10. Organic fine chemistry



5 905
-1.5% ↓



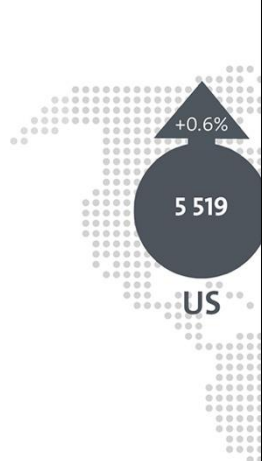
01.02.21

2020

Medical
back in

The leading 1
the last ten y

Countries of orig
applications

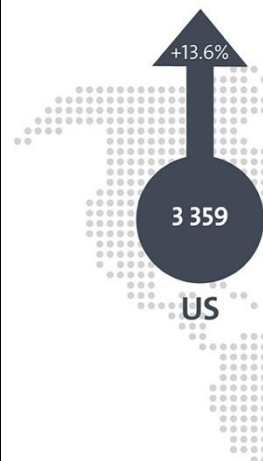


2020

Pharma
over 10%

Greatest gro
ten technolo

Countries of orig
applications

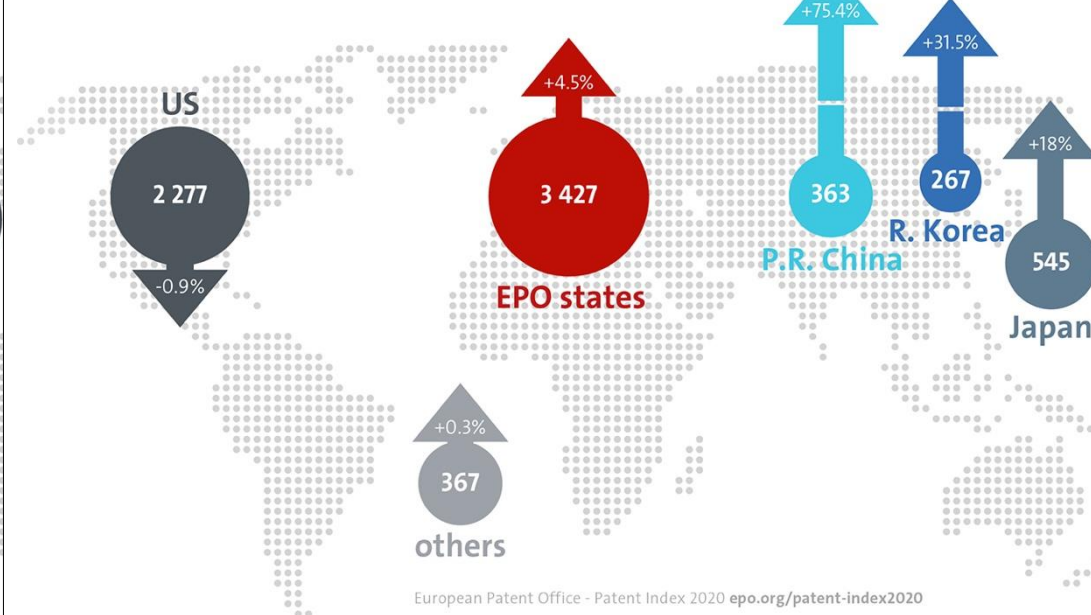


2020

Biotechnology filings
up over 6%

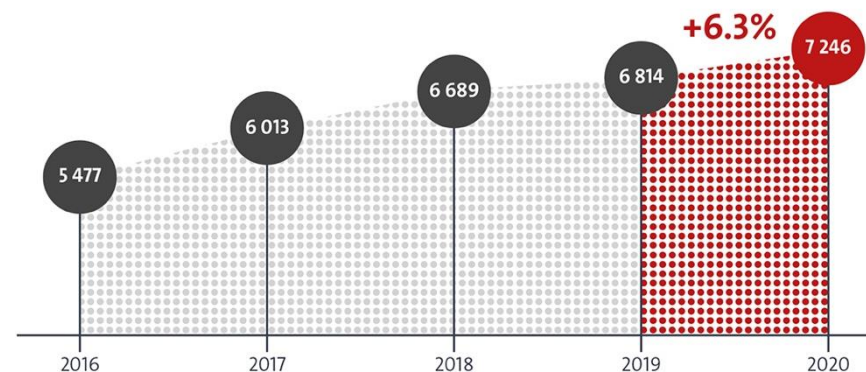
Boom in filings from companies
in Germany, Switzerland, UK
and Asia

Countries of origin for European patent
applications

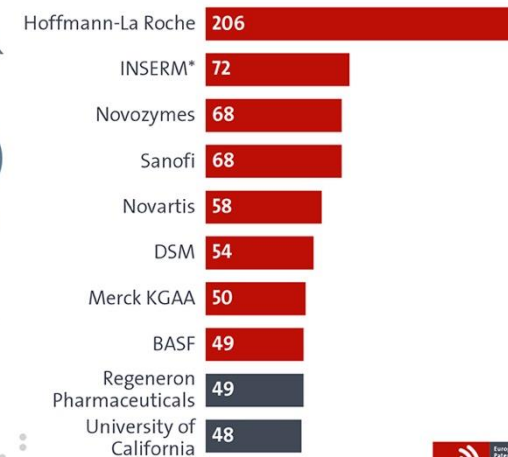


European Patent Office - Patent Index 2020 [epo.org/patent-index2020](https://www.epo.org/patent-index2020)

Total European patent applications in biotechnology



Top applicants 2020

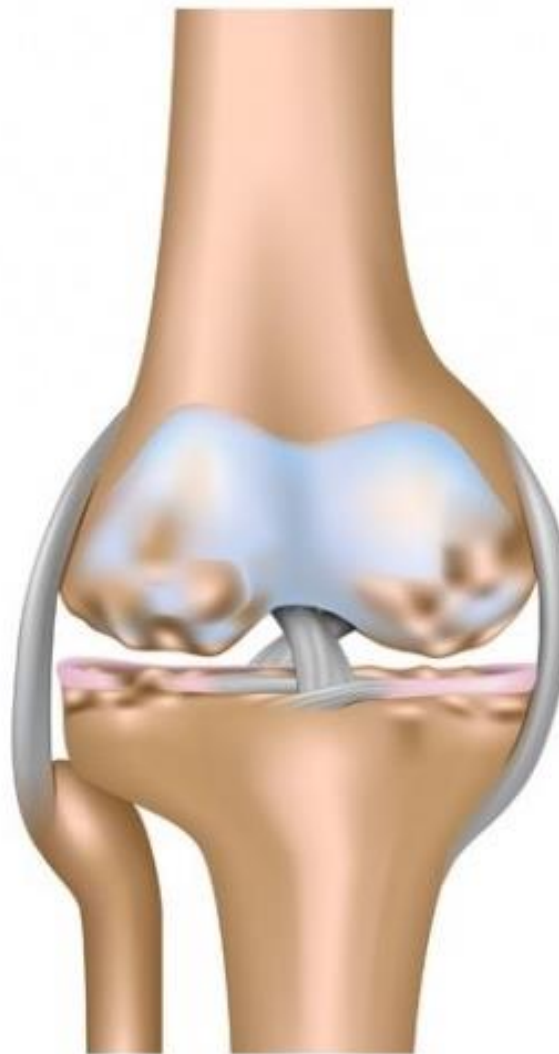


* Institut national de la santé et de la recherche médicale





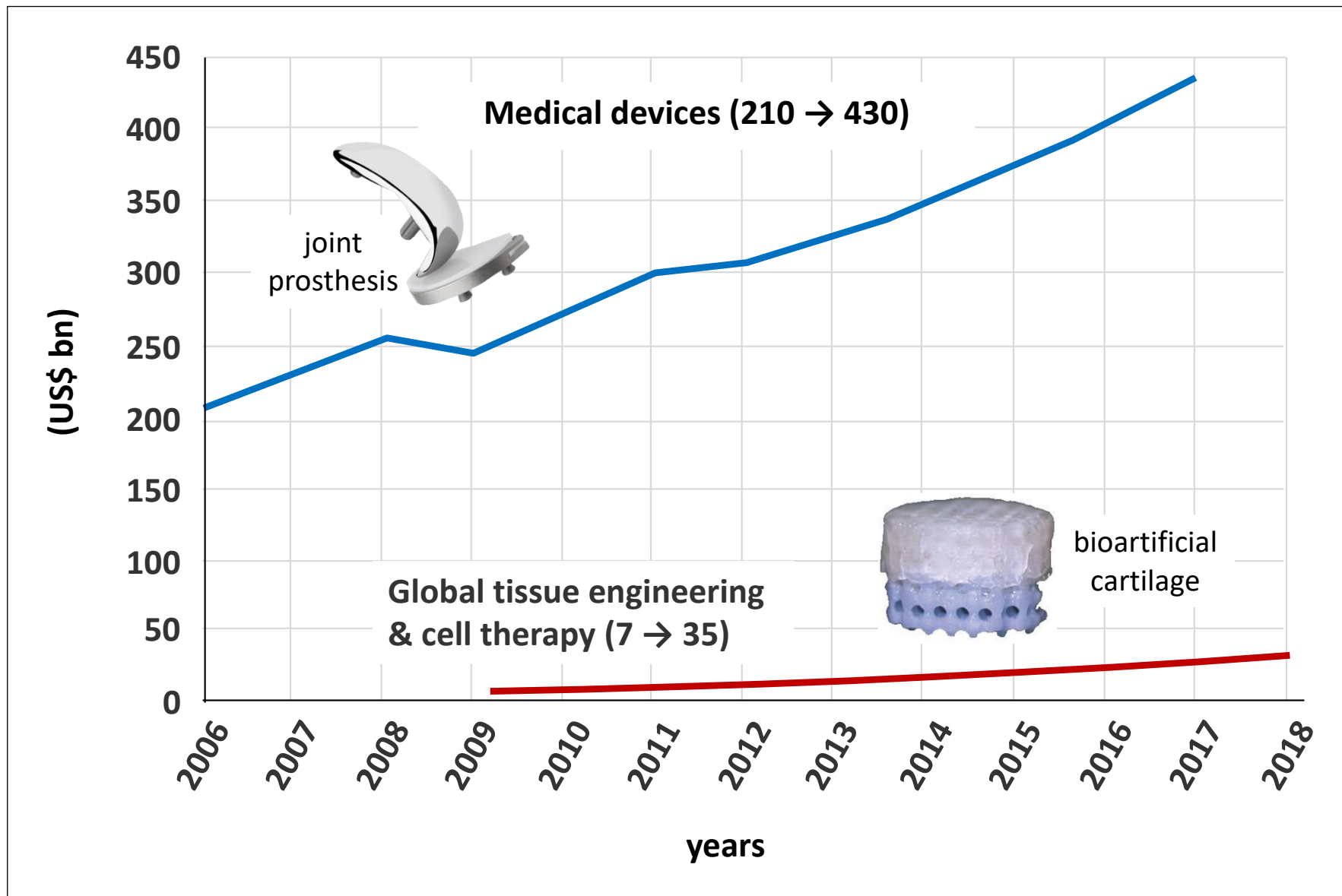
joint prosthesis
standard technology

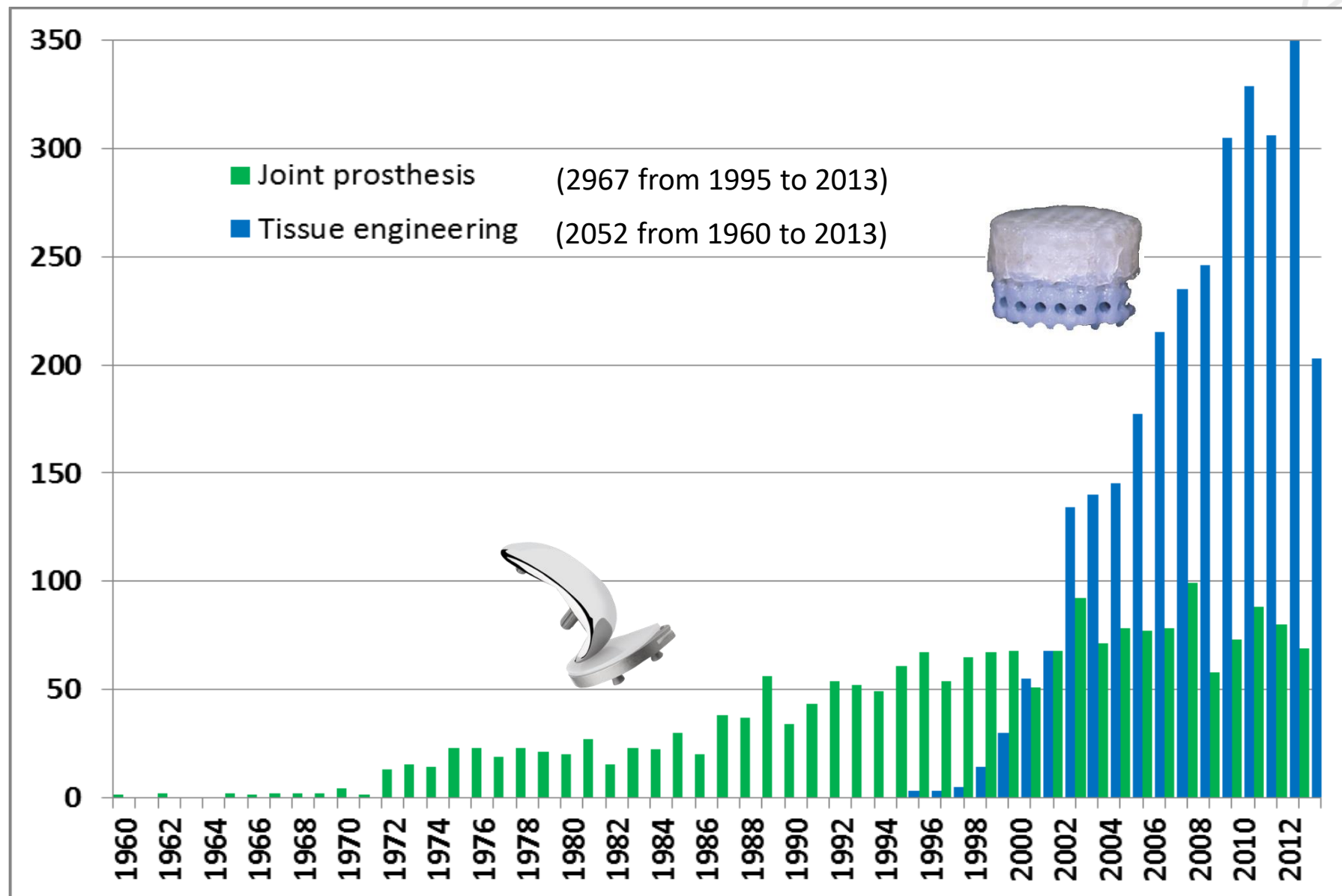


osteoarthritic knee

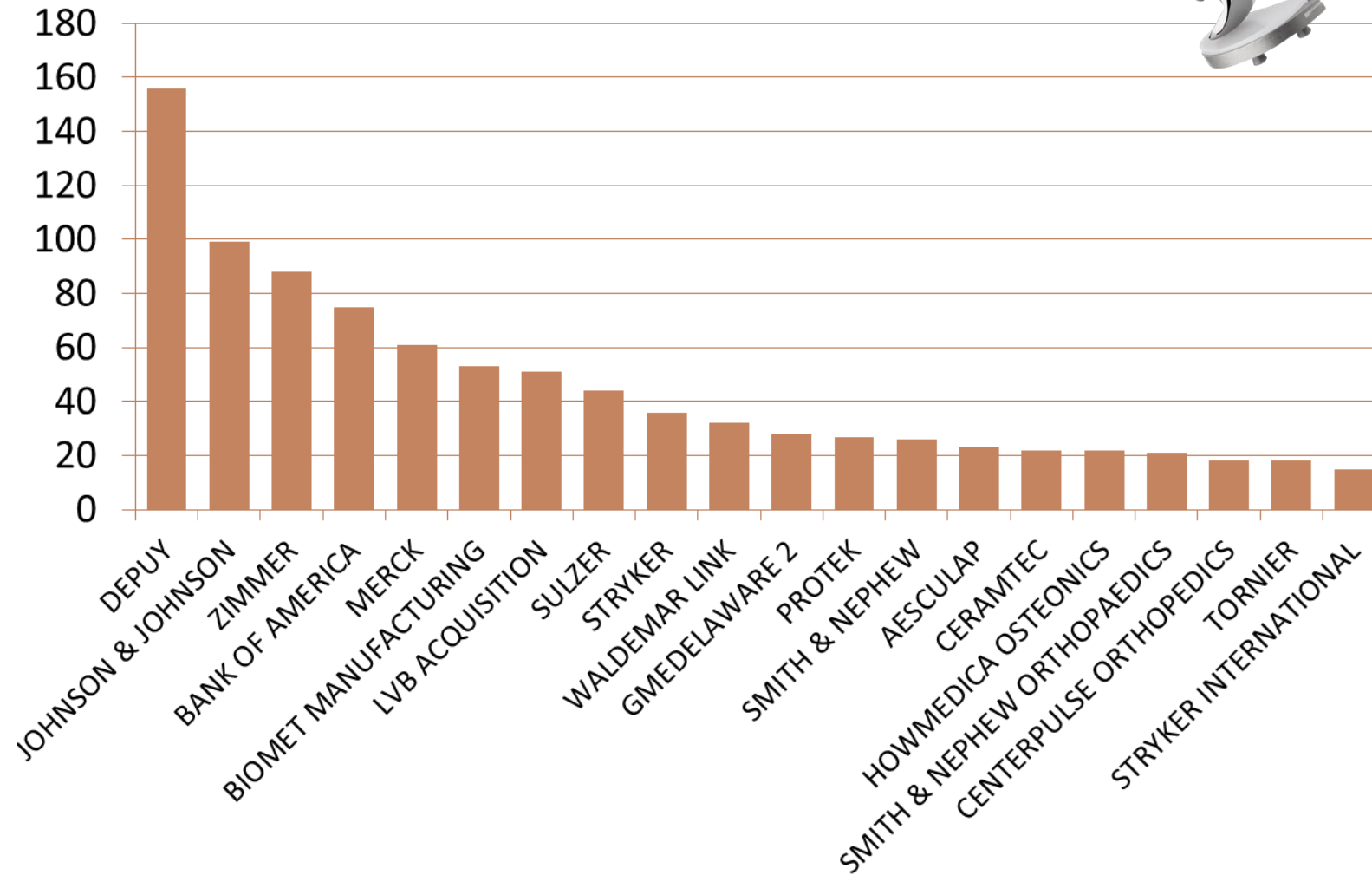


bioartificial cartilage
tissue engineering

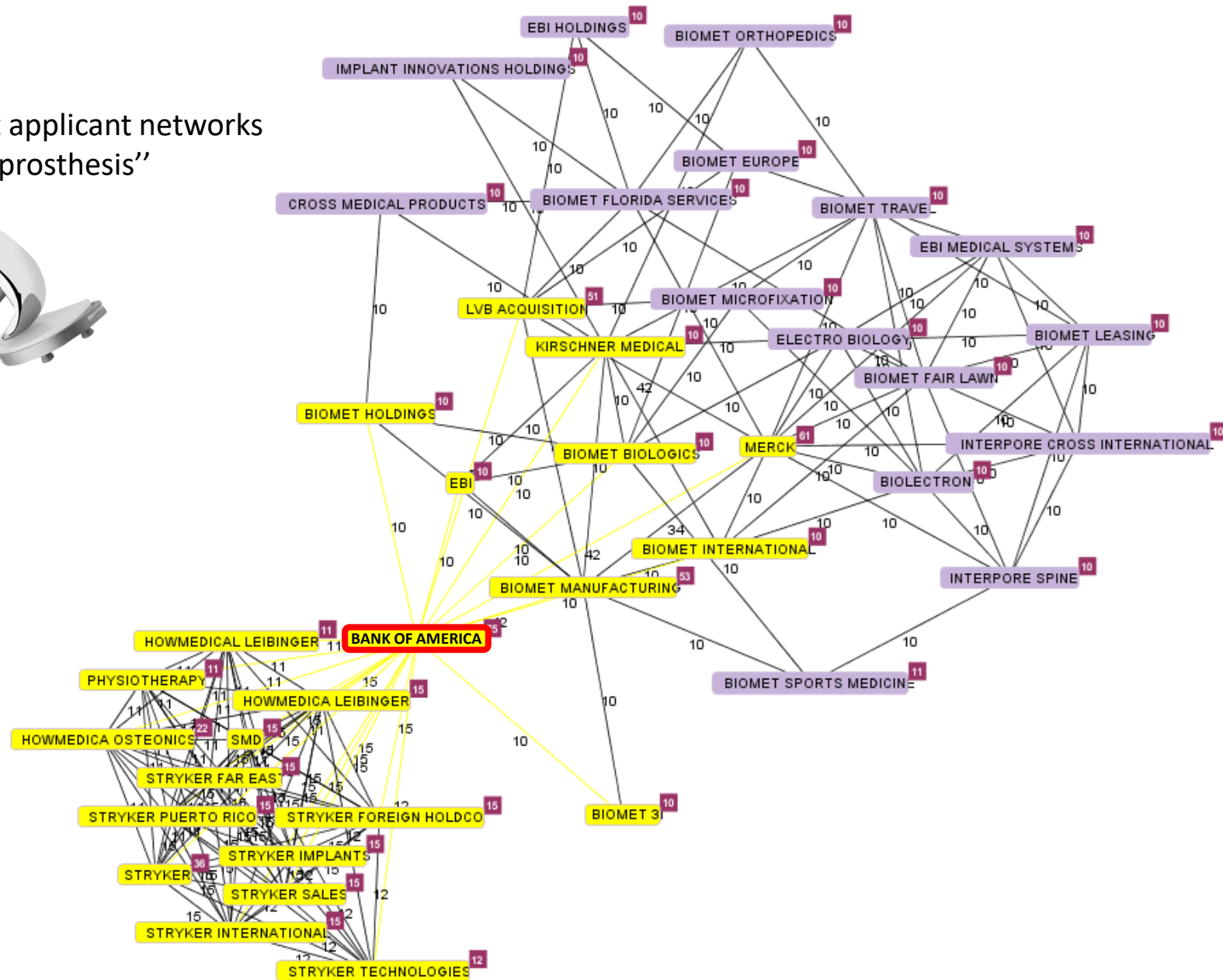




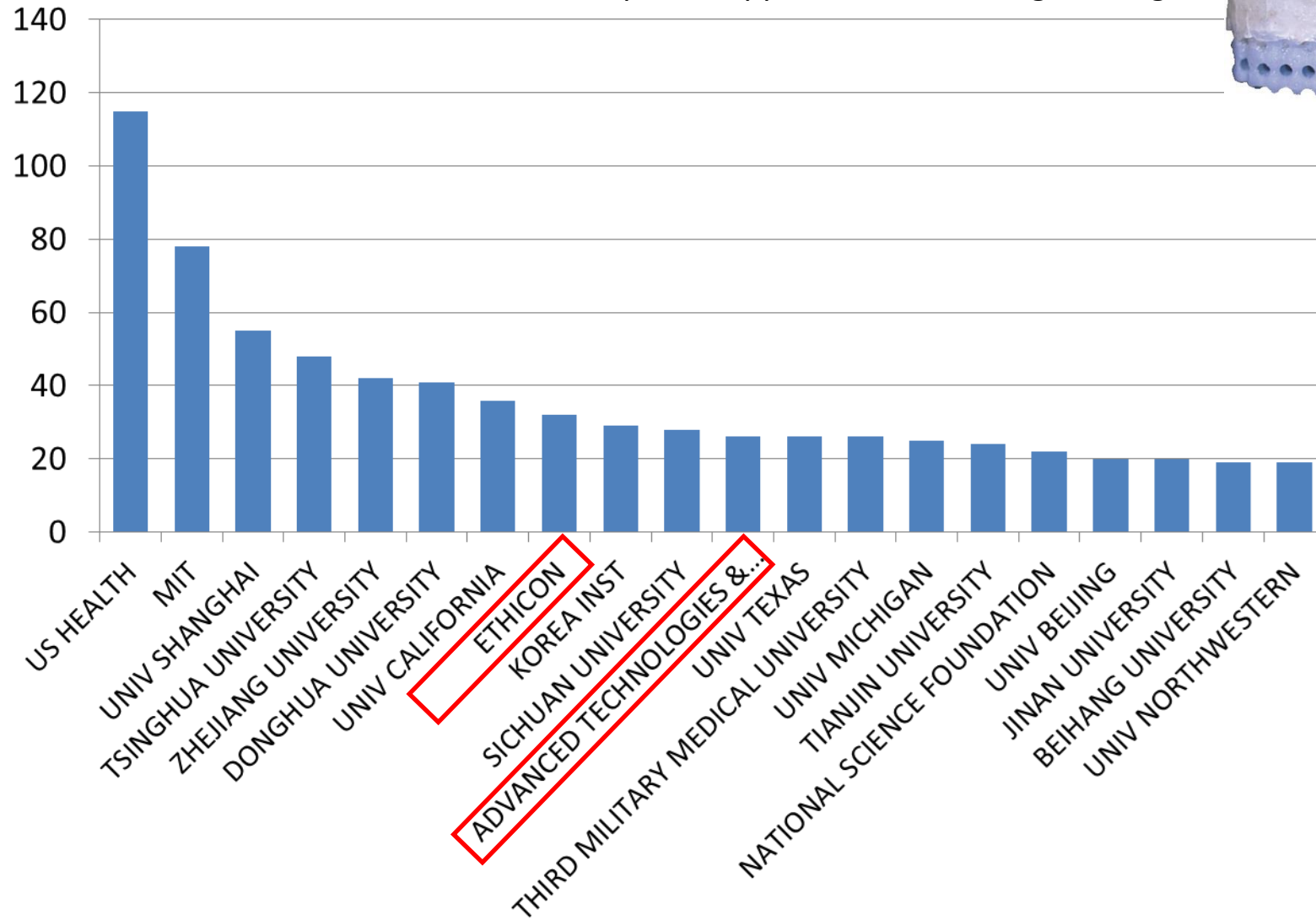
first 20 patent applicants "joint prosthesis"



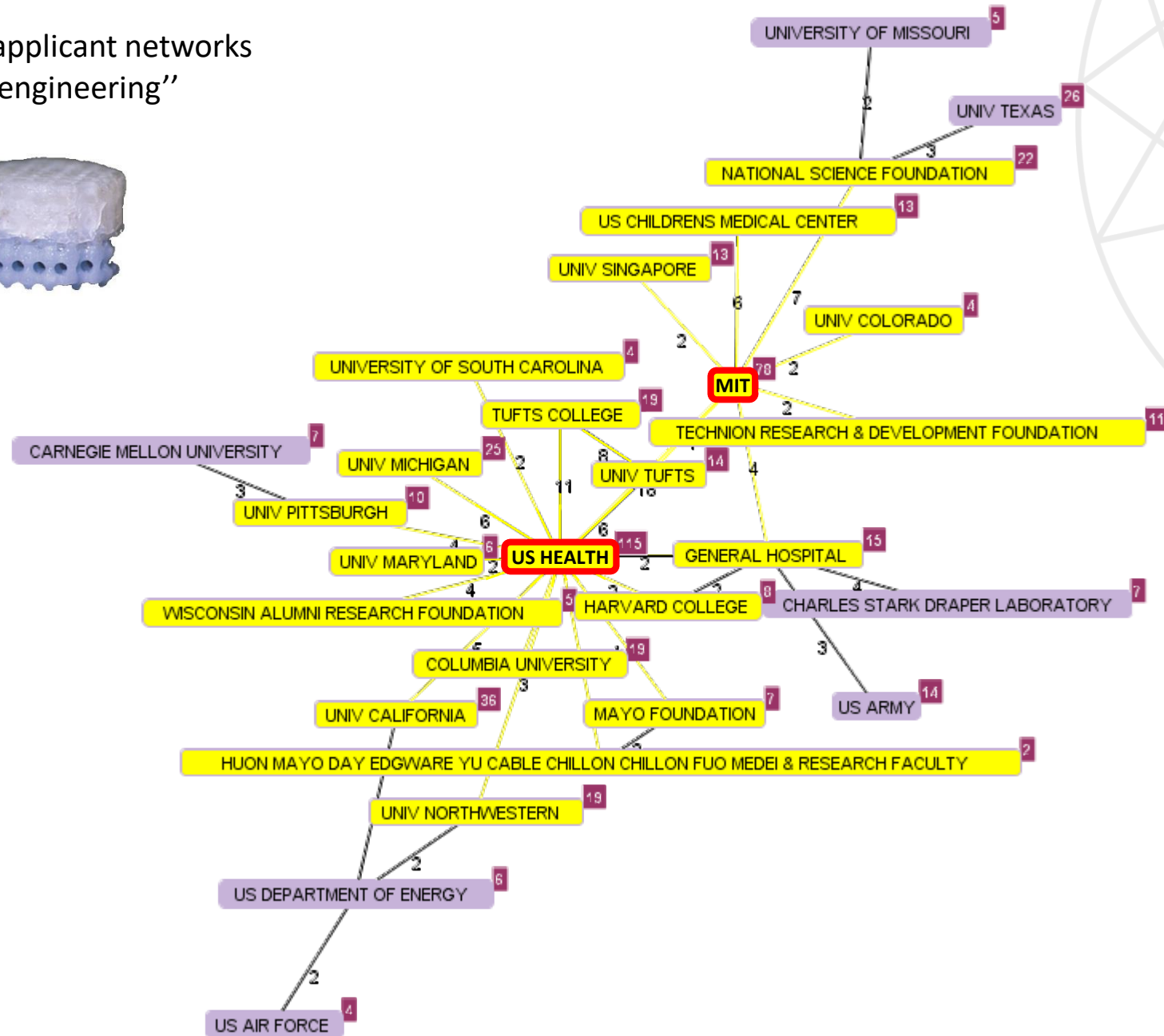
patent applicant networks
“joint prosthesis”

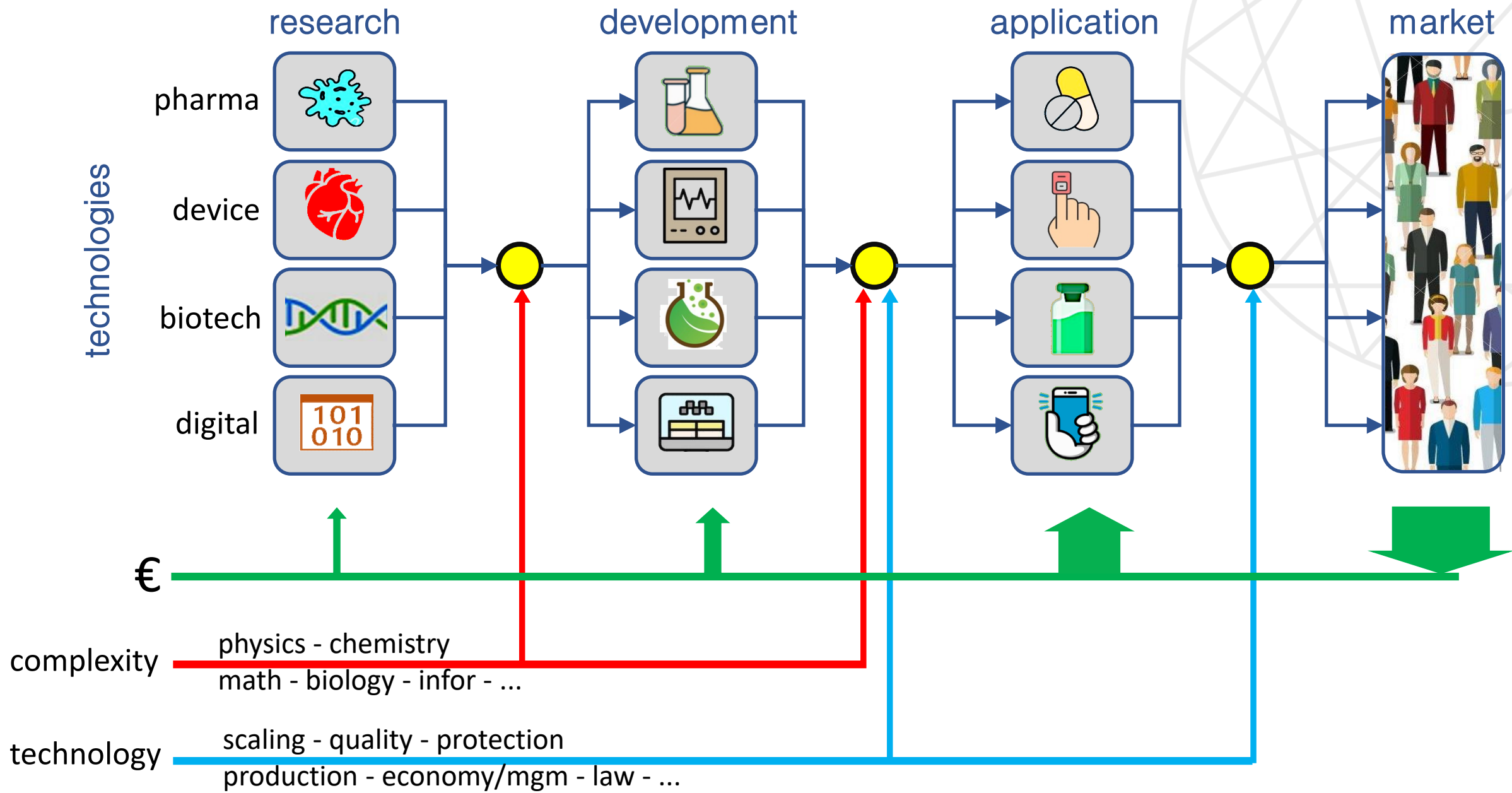


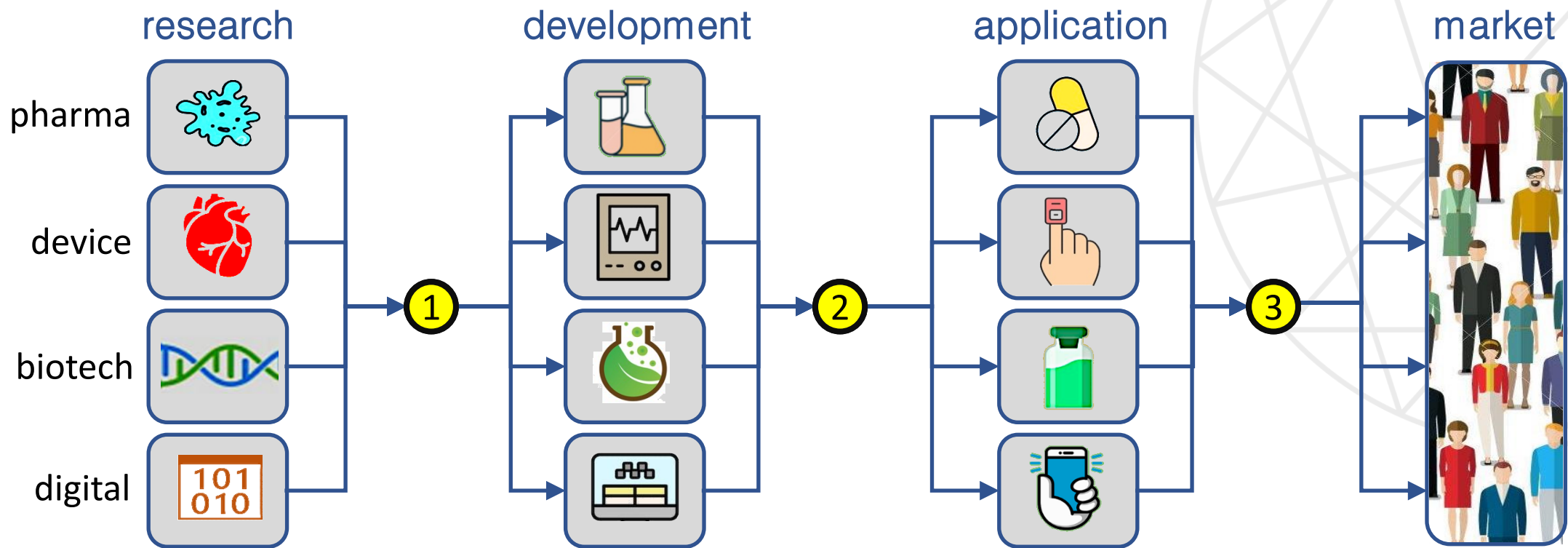
first 20 patent applicants "tissue engineering"



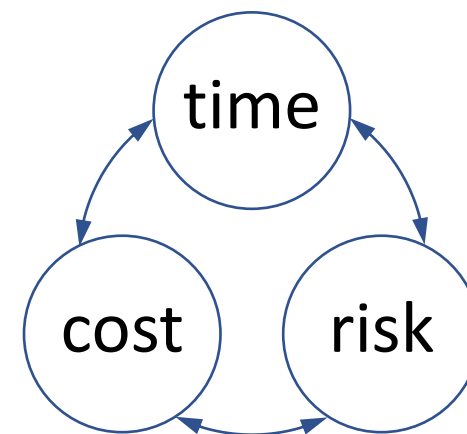
patent applicant networks “tissue engineering”

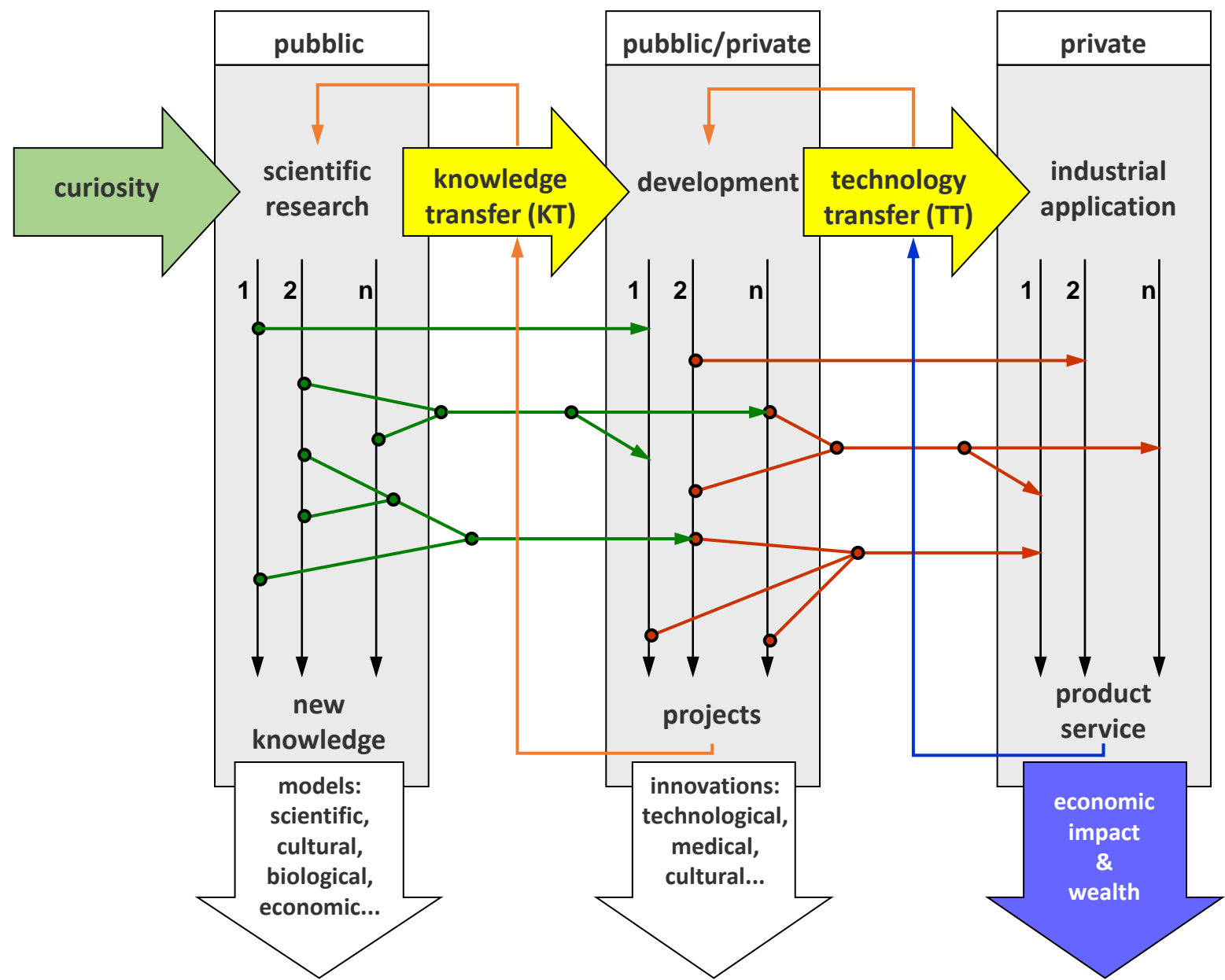


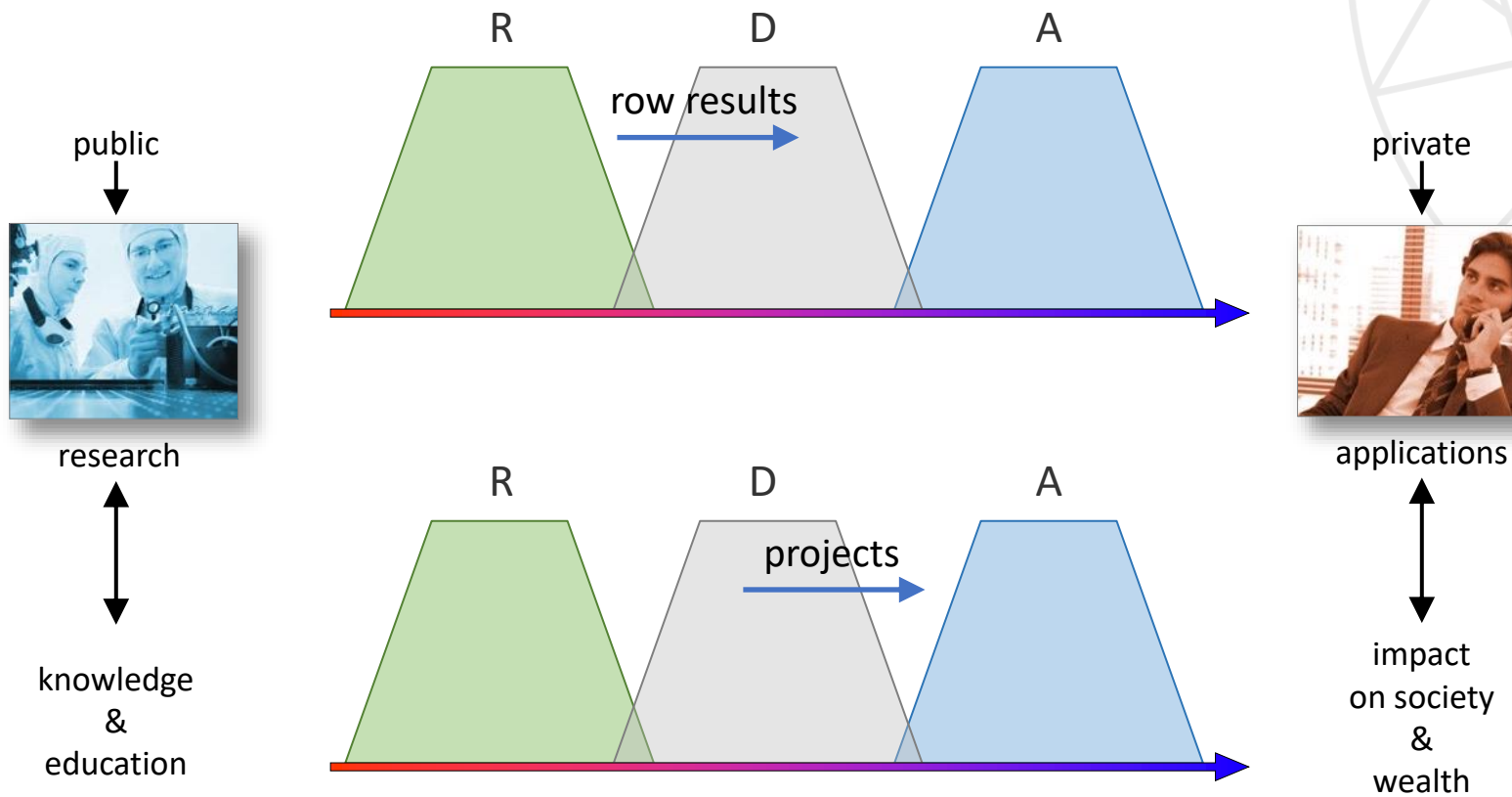




- 1** knowledge transfer (KT)
- 2** technology transfer (TT)
- 3** impact (I)









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