

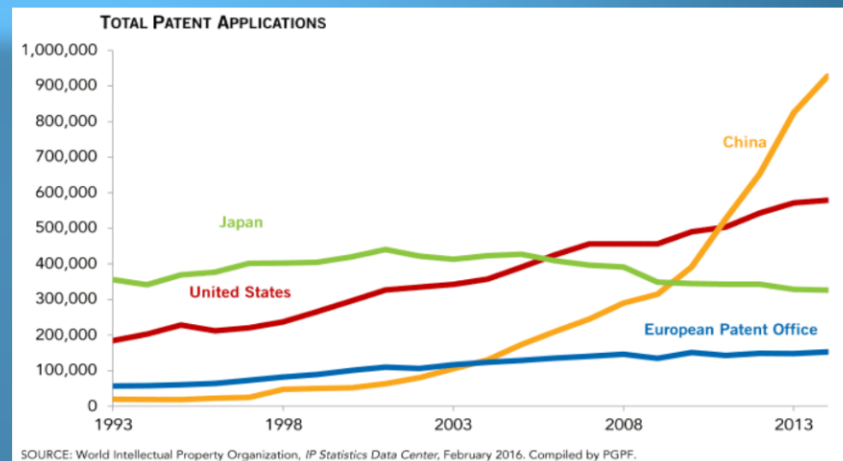
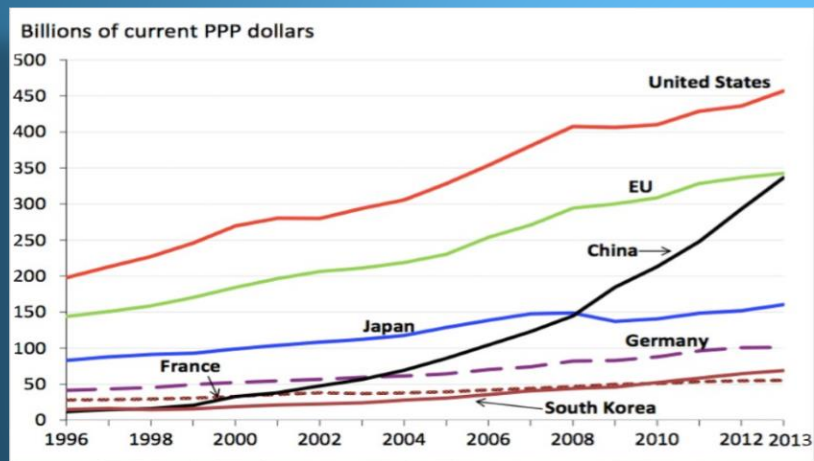


RESULTS OF EARTO STUDIES ON IMPACT

Paul de Krom, CEO
EARTO Annual Conference, Oslo, 22 March
2018

TNO innovation
for life

INVESTMENTS IN R&D



**EUROPE HAS TO STEP UP ITS INVESTMENT IN
R&D/INNOVATION TO KEEP UP WITH GLOBAL
COMPETITION!!**

BUT SOCIETY ASKS IN RETURN: SHOW US YOUR IMPACT!

- Economic?
- Scientific?
- Societal?
- Ecological?
- Policy?

ECONOMIC FOOTPRINT OF 9 RTOS MEMBERS OF EARTO



- Why an economic footprint study for RTOs?
 - Lack of official quantitative data and evidence on RTOs
 - Demonstrate the economic impact of RTOs in Europe

AGGREGATED EFFECTS OF 9 RTOS IN 2016 (1)

▮ from their Core Activities and through Collaborative Contract Research and Spin-offs



284,000
jobs



€ 35.8 billion
revenue



€ 16.8 billion
value added



€ 6.7 billion
fiscal and
parafiscal return
to governments

AGGREGATED EFFECTS OF 9 RTOS IN 2016 (2)

▮ In summary the footprint study shows



For
1 job
in an RTO, additional
4 jobs
were created elsewhere
in Europe in 2016



For
€1 invested
by governments in RTOs
as operational grants
€3 return
flew back to those
governments in 2016

RTO'S DEEP-TECH SPIN-OFFS HAVE A HIGHER LIFE-SPAN



7.7 years lifespan

before they end their activities or
are merged with another company

A SURVIVAL RATE OF

97 %

after 1 year

(compared to EU average
of 87%)

83 %

after 5 years

(compared to EU average
of less than 50%)

NEW STUDY ON MICRO-ECONOMIC IMPACT OF TNO ON COMPANIES

Preliminary results: Companies that use TNO services have 13%-17% higher value added growth in the next year

Source: Poliakov, E., J. Hu and M. de Heide (in press). A microeconomic assessment of RTO's impact on firms output: The case of TNOs, in press

Data

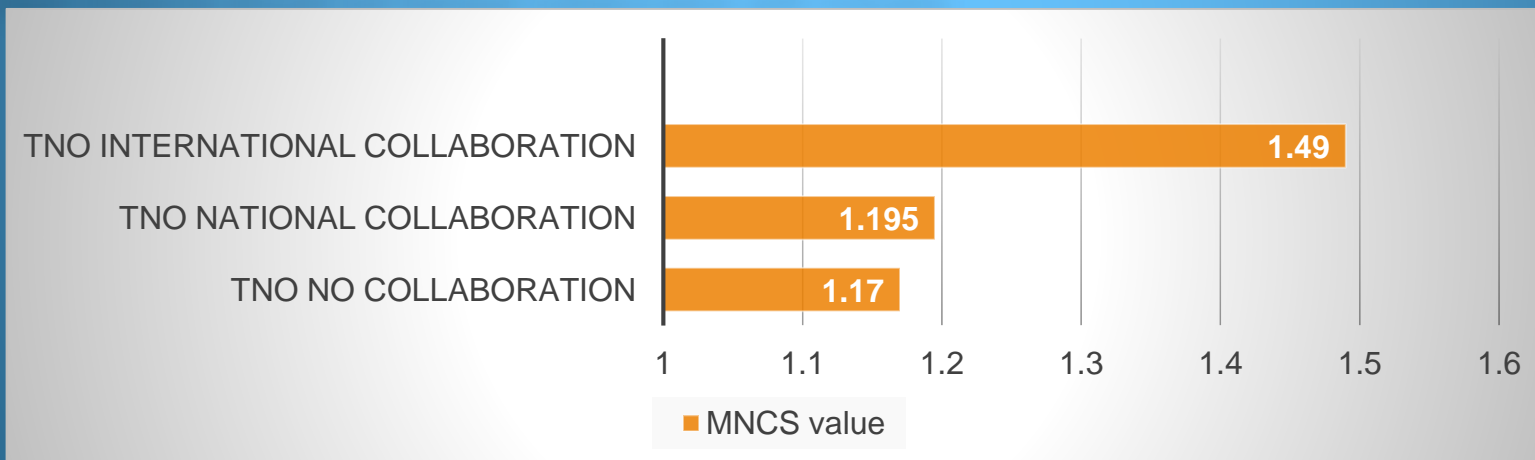
- ▮ Treatment group: 988 Dutch companies that collaborated with TNO.
- ▮ Control group: 6749 companies that do R&D but did not interact with TNO

Methods (four scientific methods combined)

- ▮ Matching: *Nearest Neighbour Matching* and *Propensity Score Matching*
- ▮ Impact: *Average Treatment Effect* and *Average Treatment Effect of the Treated*

SCIENTIFIC IMPACT: EFFECT OF COOPERATION ON THE CITATION INDEX

- ▮ The scientific level of our applied science is high
- ▮ Collaboration with international (industrial) partners has a very positive effect on the Citation Index
- ▮ Open Science should not hamper collaboration with industry



SUMMARY

- Show Impact!
- Strong macro- and micro economic impact
- Contribution is of high quality
- Need for ambitious FP9 to strengthen Europe's Industrial Leadership
- Open science should not hamper cooperation with industry

A nighttime photograph of a cityscape featuring a large bridge with blue and white lights spanning a river. In the foreground, a multi-lane highway with light trails from traffic leads towards the bridge. The city skyline is visible in the background with various lit-up buildings.

**THANK YOU FOR
YOUR ATTENTION**

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