

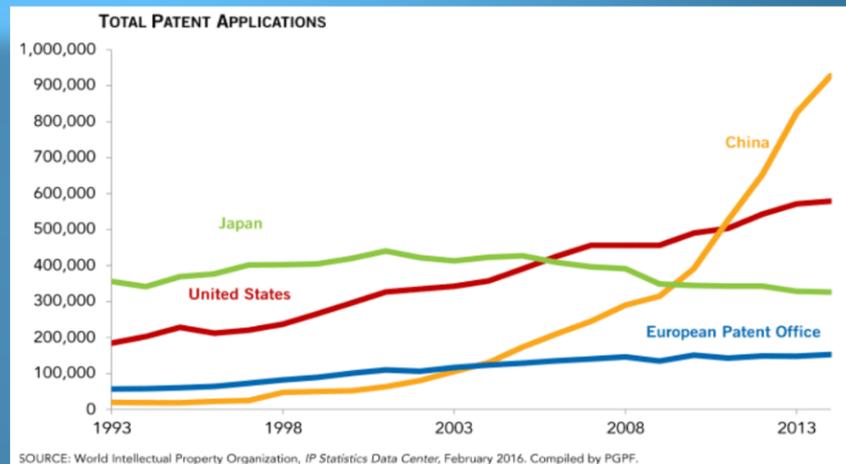
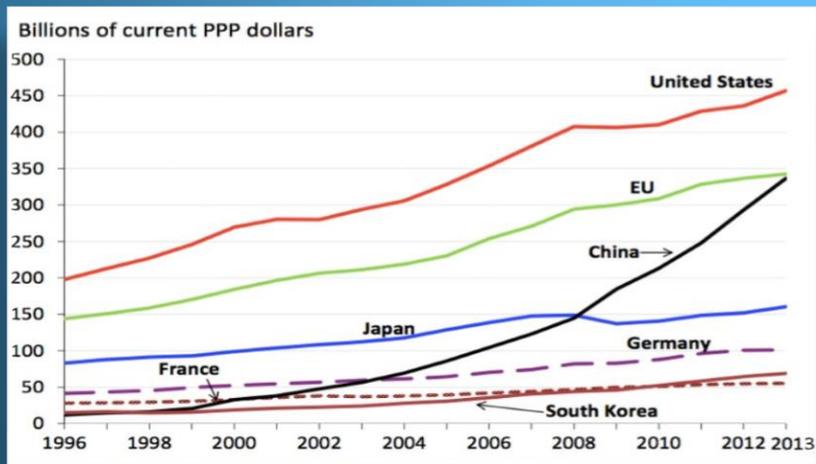
A nighttime cityscape featuring a prominent bridge with blue lighting over a body of water. Light trails from traffic on a nearby road are visible. The background shows city buildings and streetlights.

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
para-fiscal return
to governments

AGGREGATED EFFECTS OF 9 RTOS IN 2016 (2)

▮ In summary the footprint study shows



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

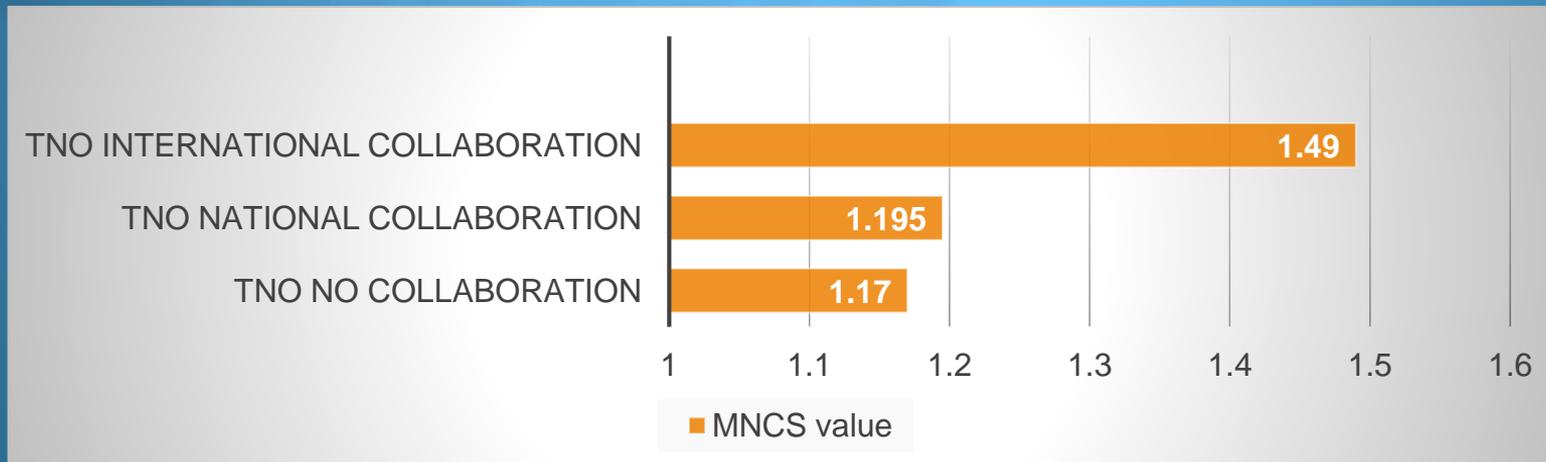
- ▮ Treatment group: 988 Dutch companies that collaborated with TNO.
- ▮ Control group: 6749 companies that do R&D but did not interact with TNO

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 cityscape featuring a prominent bridge with blue and white lights over a body of water. Light trails from traffic are visible on the road to the right. The scene is illuminated by city lights and streetlights.

› **THANK YOU FOR
YOUR ATTENTION**

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