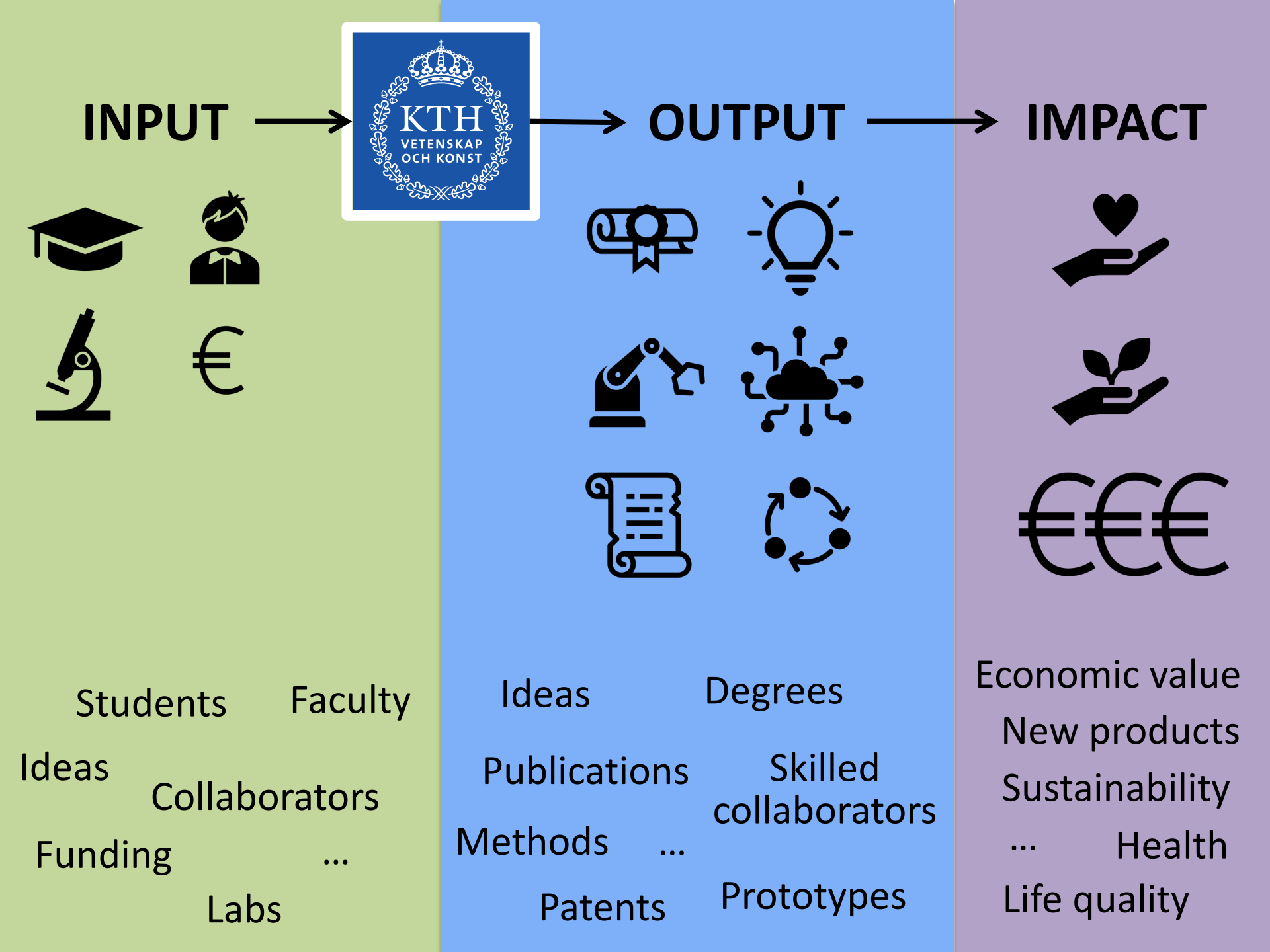
Wouter van der Wijngaart

KTH Micro and Nanosystems

www.kth.se/profile/wouter; wouter@kth.se

IMPACT = Value provided to stakeholders and end-users


INPUT
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IMPACT
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Students
Faculty
Ideas
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Funding
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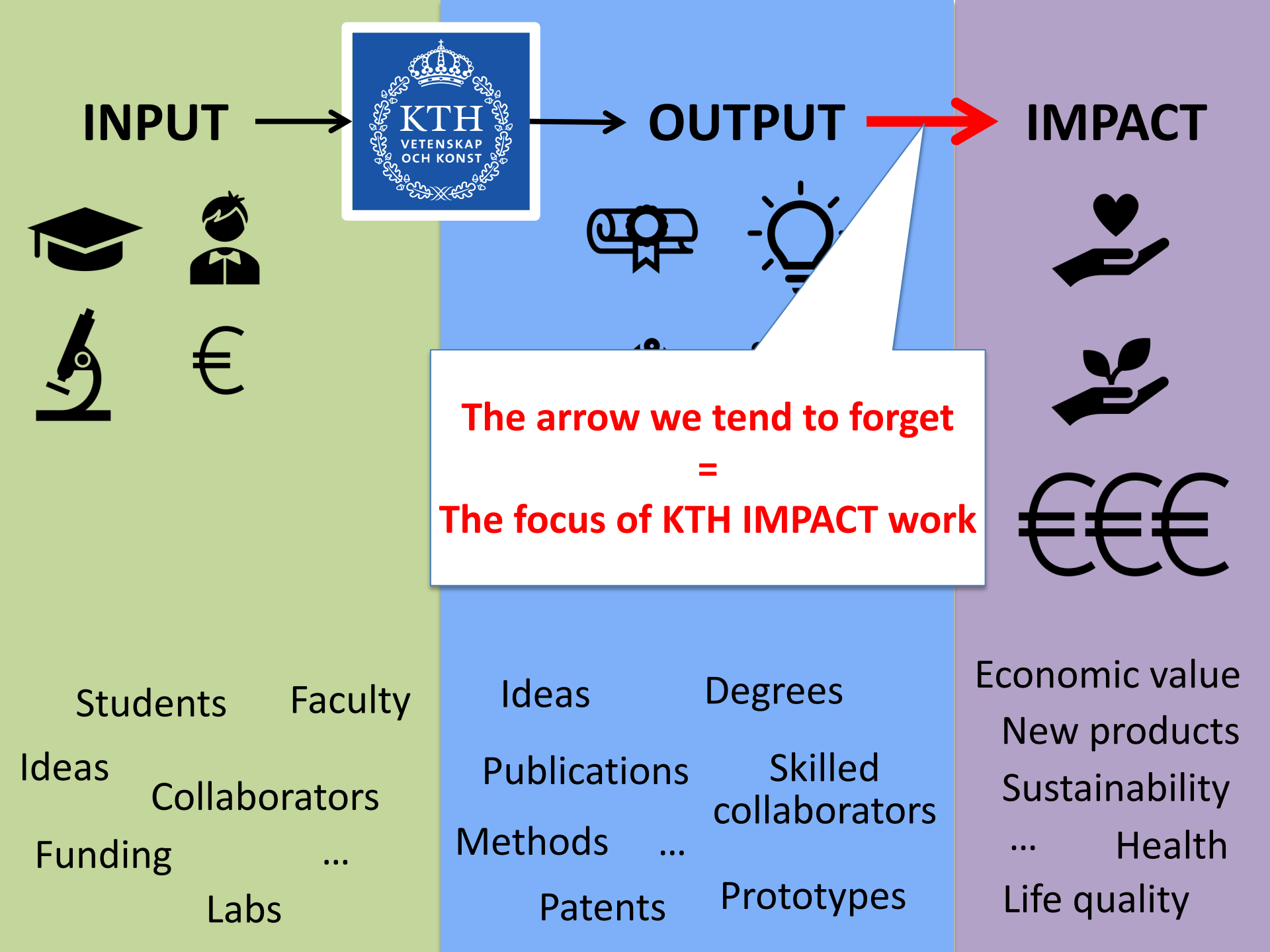
Labs
Ideas
Degrees
Publications
Skilled collaborators
Methods
…
Patents
Prototypes
Economic value
New products
Sustainability
…
Health
Life quality


INPUT
KTH
VETENSKAP
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The arrow we tend to forget
=
The focus of KTH IMPACT work
Students
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Ideas
Collaborators
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Labs
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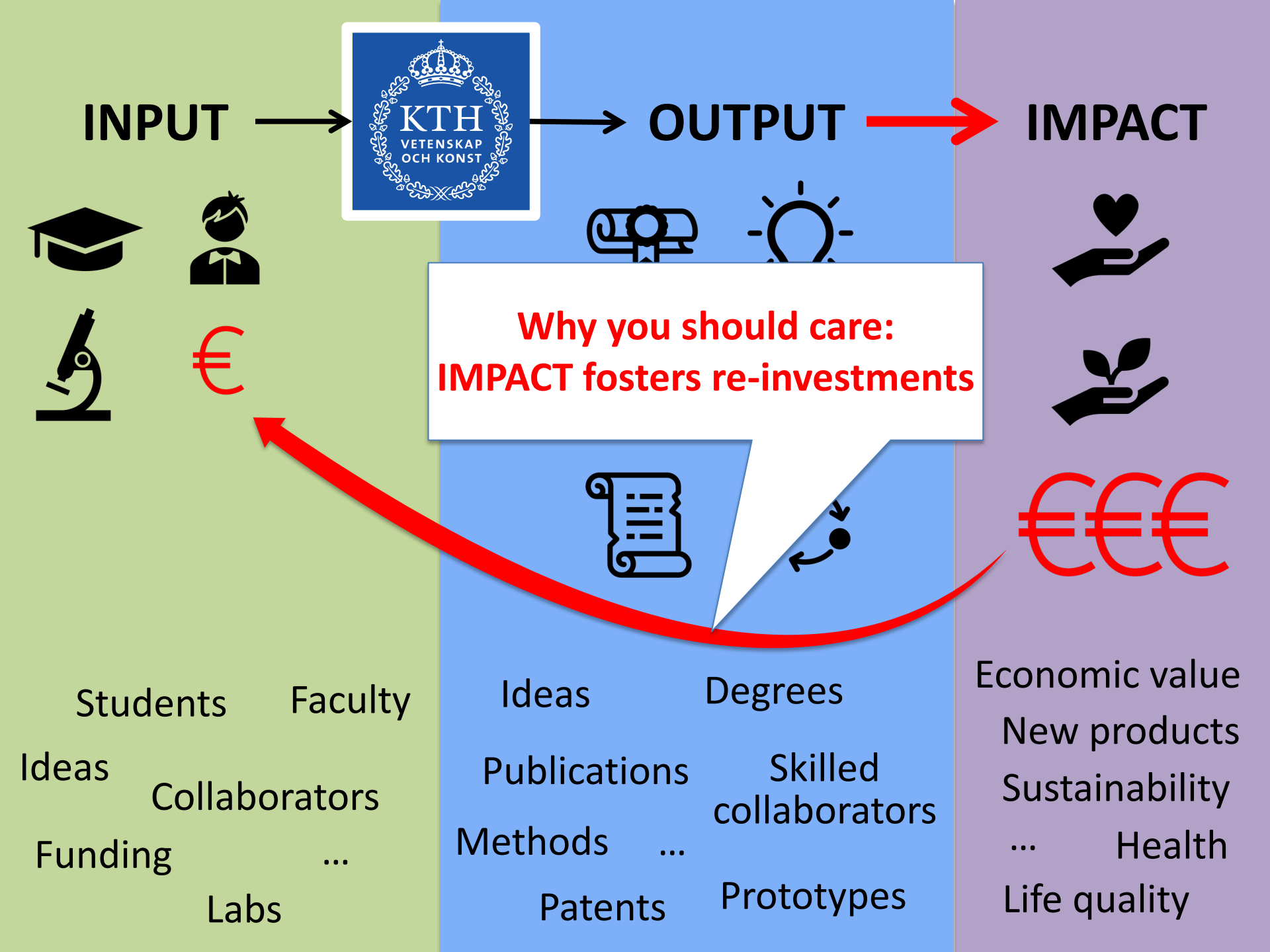
Economic value
New products
Sustainability
…
Health
Life quality


INPUT
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IMPACT
Why you should care:
IMPACT fosters re-investments
Students
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Ideas
Collaborators
Funding
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Methods
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Economic value
New products
Sustainability
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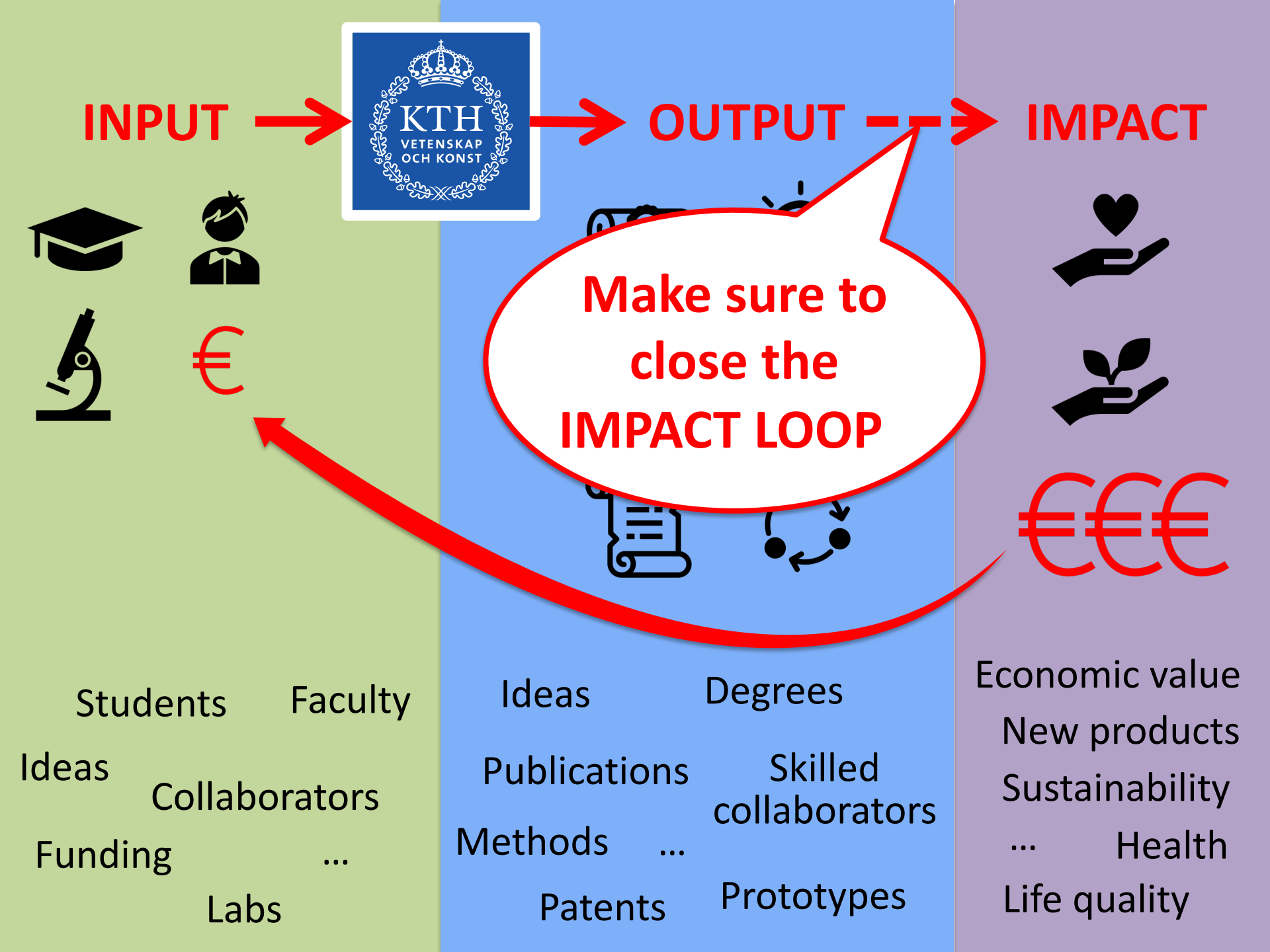
Health
Life quality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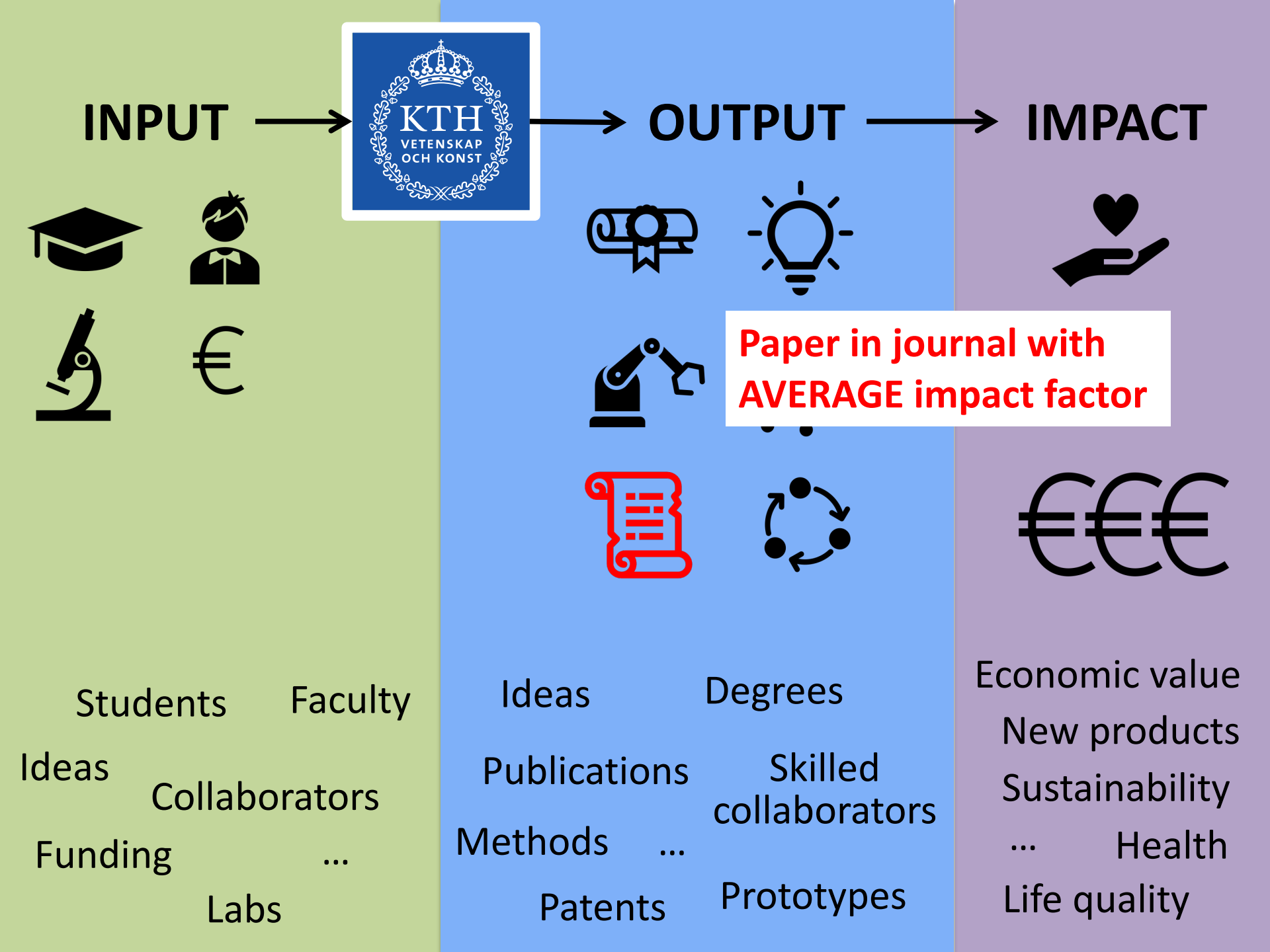
New products
Sustainability
…
Health
Life quality


INPUT
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OUTPUT
IMPACT
Paper in journal with
AVERAGE impact factor
Students
Faculty
Ideas
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Funding
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Labs
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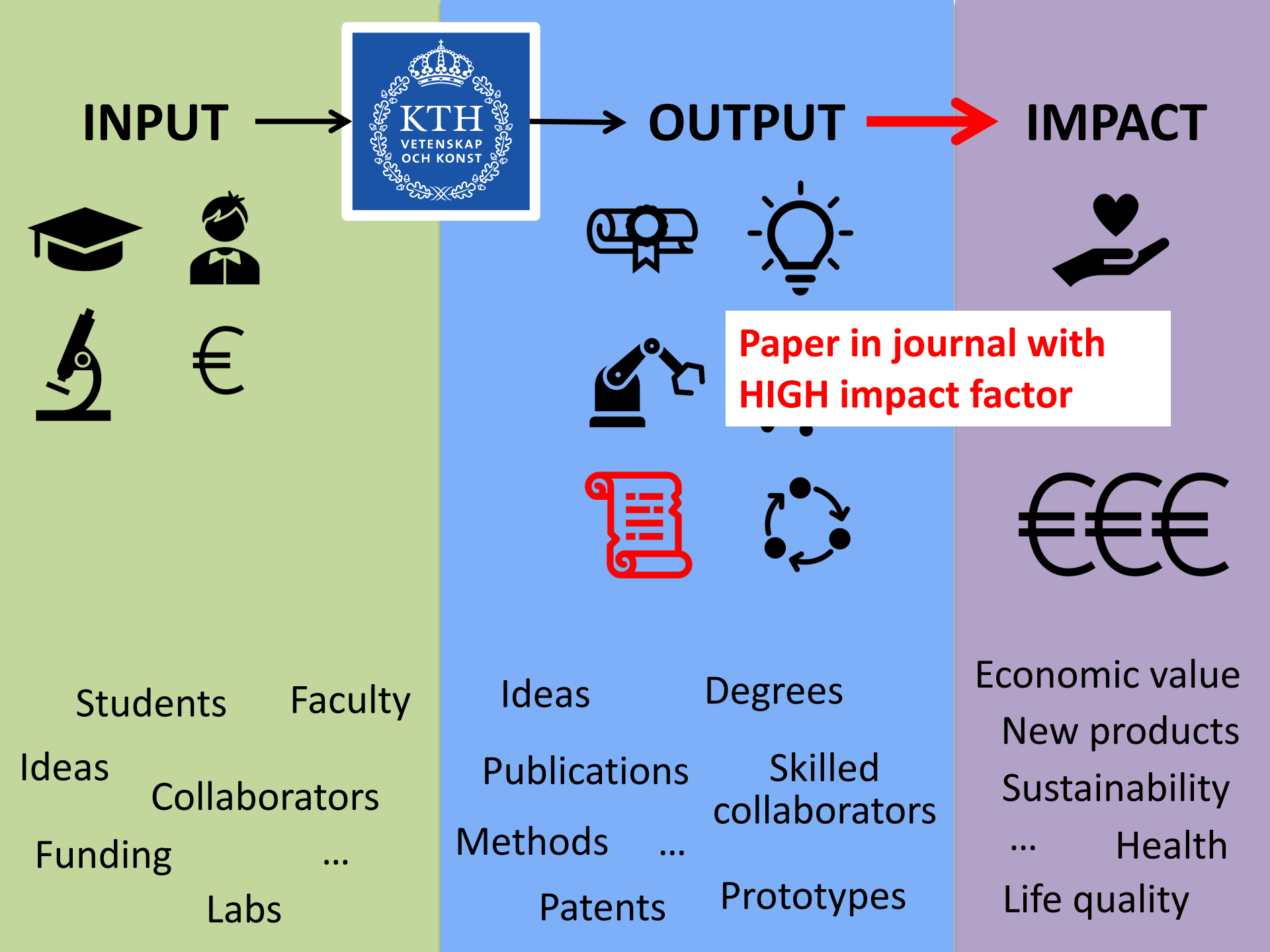
Patents
Economic value
New products
Sustainability
…
Health
Life quality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OCH KONST
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IMPACT
Paper in journal with
HIGH impact factor
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Prototypes
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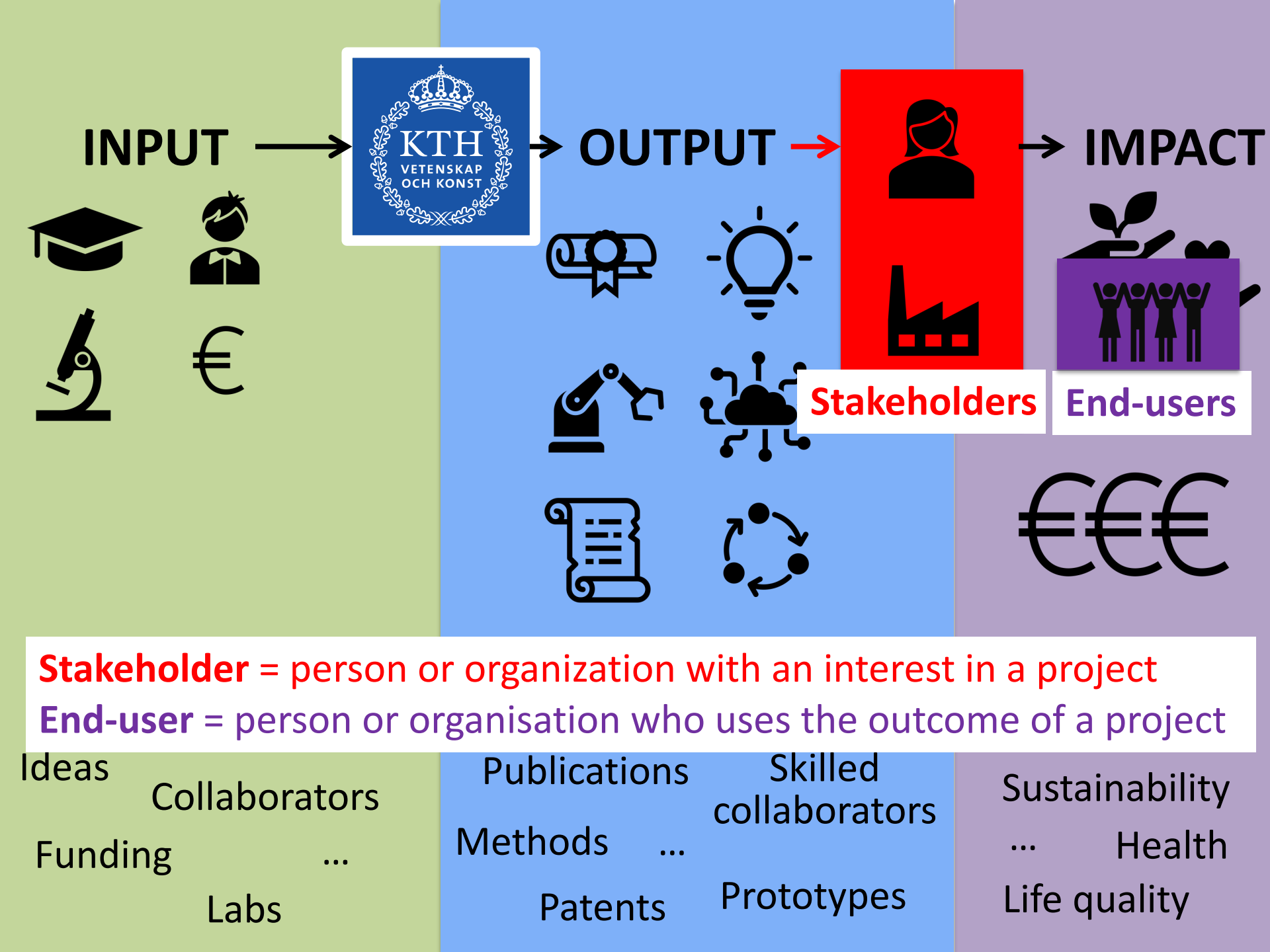
Economic value
New products
Sustainability
…
Health
Life quality



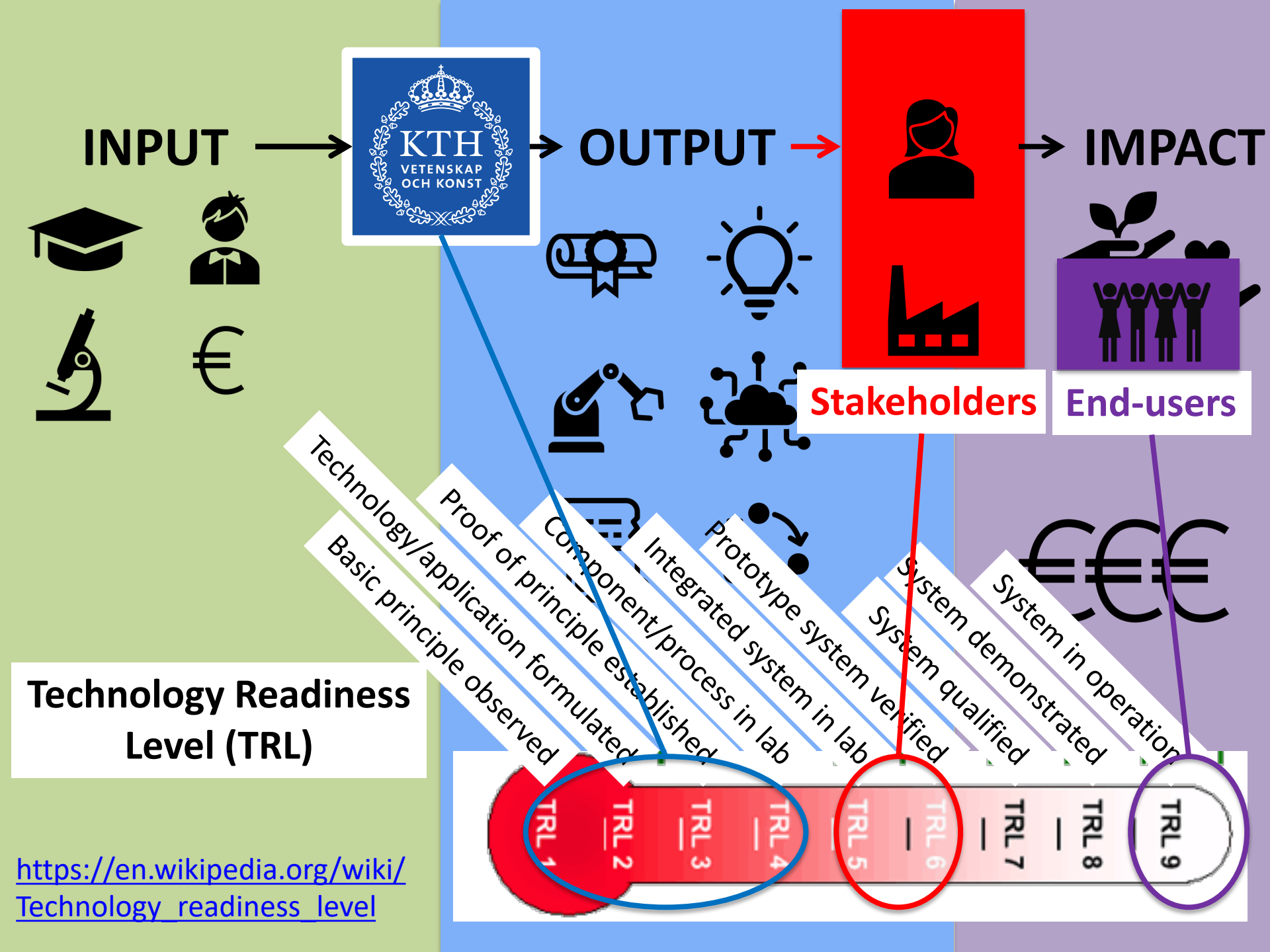
Stakeholder = person or organization with an interest in a project

End-user = person or organisation who uses the outcome of a project

Ideas
Collaborators
Funding
…
Labs

Publications
Skilled collaborators
Methods
…
Patents
Prototypes

Sustainability
…
Health
Life quality



Technology Readiness Level (TRL)

https://en.wikipedia.org/wiki/Technology_readiness_level

RAE 2020 reflections on enabling IMPACT at EECS

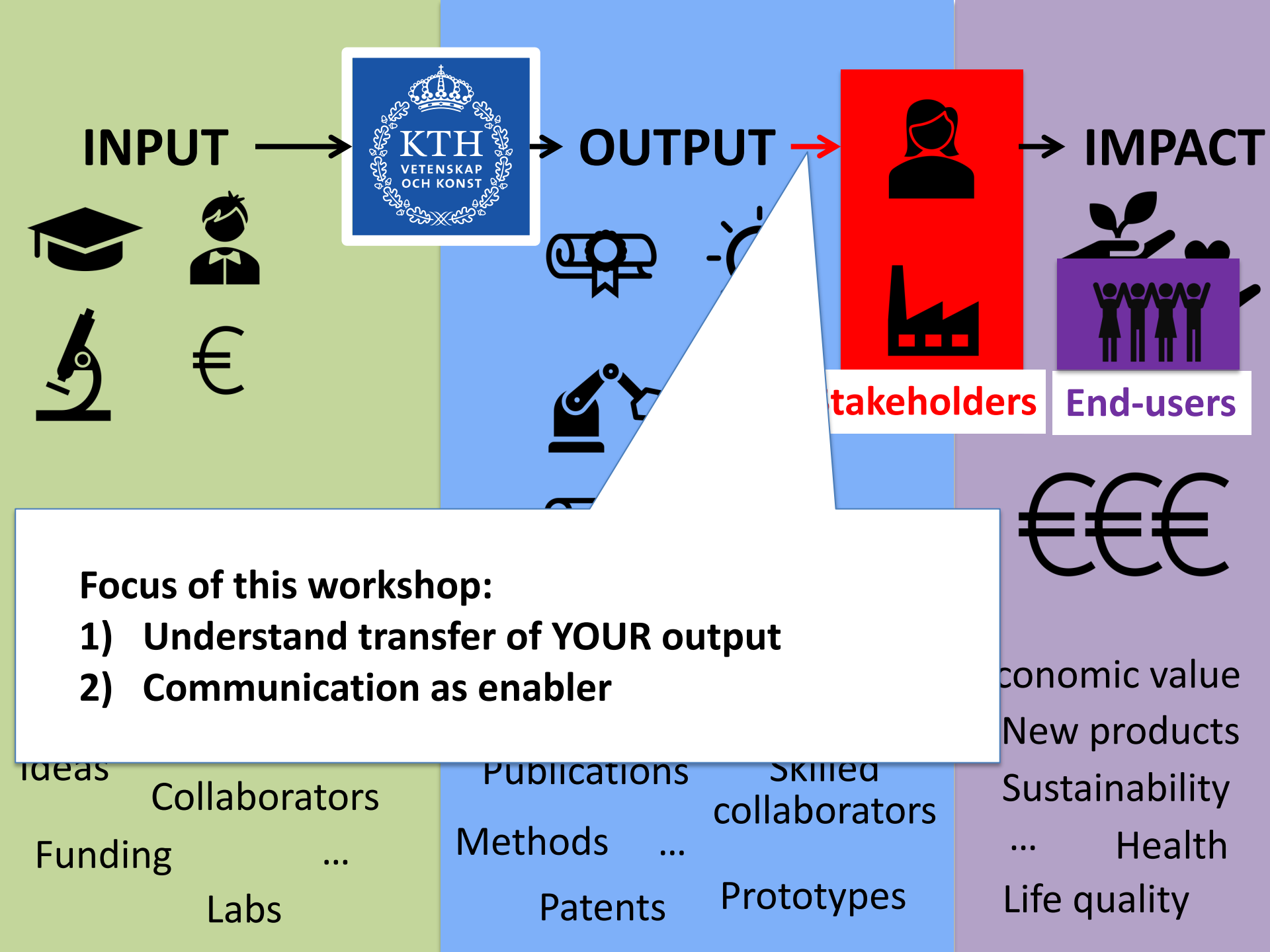
"We think we do rather well."

KTH has unclear expectation levels on its divisions/departments or individual researchers.
We should reach a common understanding, definition and quantification methods for impact.

"We likely do not reach our full potential."

Low hanging fruits:

- Improve communication.
- Engage with stakeholders – and get their feedback.


INPUT
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OCH KONST
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IMPACT
takeholders
End-users
€€€
Focus of this workshop:
1) Understand transfer of YOUR output
2) Communication as enabler
Ideas
Collaborators
Funding
…
Labs
Publications
Skilled
collaborators
Methods
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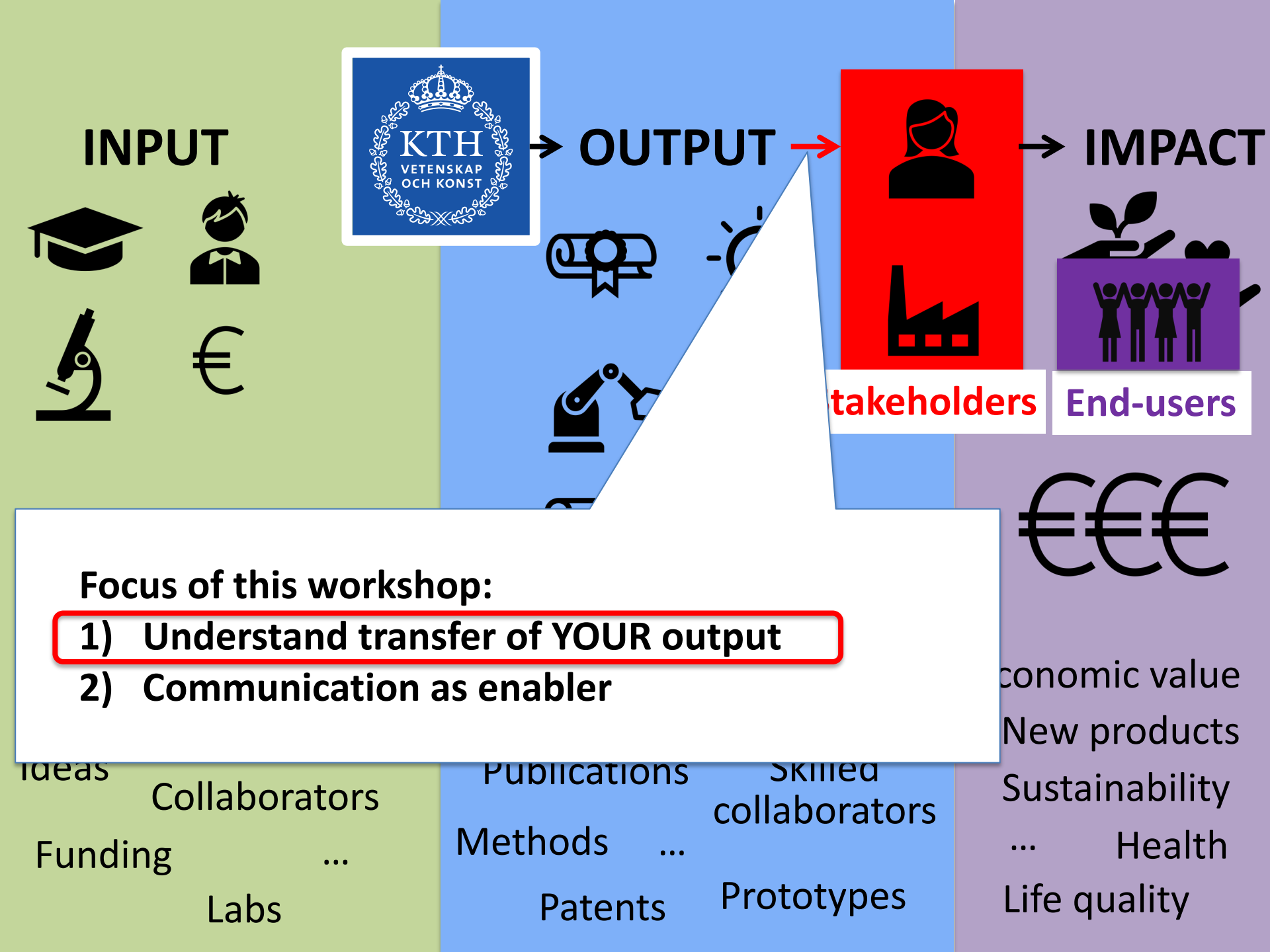
Patents
Prototypes
conomic value
New products
Sustainability
…
Health
Life quality


INPUT
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Ideas
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…
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…
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New products
Sustainability
…
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Life quality

Write down a NABC analysis

(Typ. 0.5-2 page)

- **N for Need.** N is the most important! An idea without a practical need remains just what it is: a good idea and nothing more.
- **A for Approach.** Describe your approach. **A** is usually a point of departure for most activities.
- **B for Benefit.** What makes what you do unique? How will your approach build value?
- **C for Competition.** What alternatives exist to reach **B**? (And how are you better?) **C** focuses on the reality within which a concept has to function.

Engage with KTH Innovation
(e.g. Gustav Notander <notander@kth.se>)

Write down a NABC analysis

(Typ. 0.5-2 page)

- **N for Need**. N is the most important! An idea without a practical n… d nothing more.

Resembles a proto-business plan.

- **A for Approach.** Describe … for most acti…

Who are your stakeholders ?
(Note: end user ≠ stakeholder)

Be specific !

- **B for Benefit**. What makes what you do unique? How will your a…

Reuse your NABC text on your project website!

NABC = great basis for the Introduction Chapter of a thesis.

concept has to function.

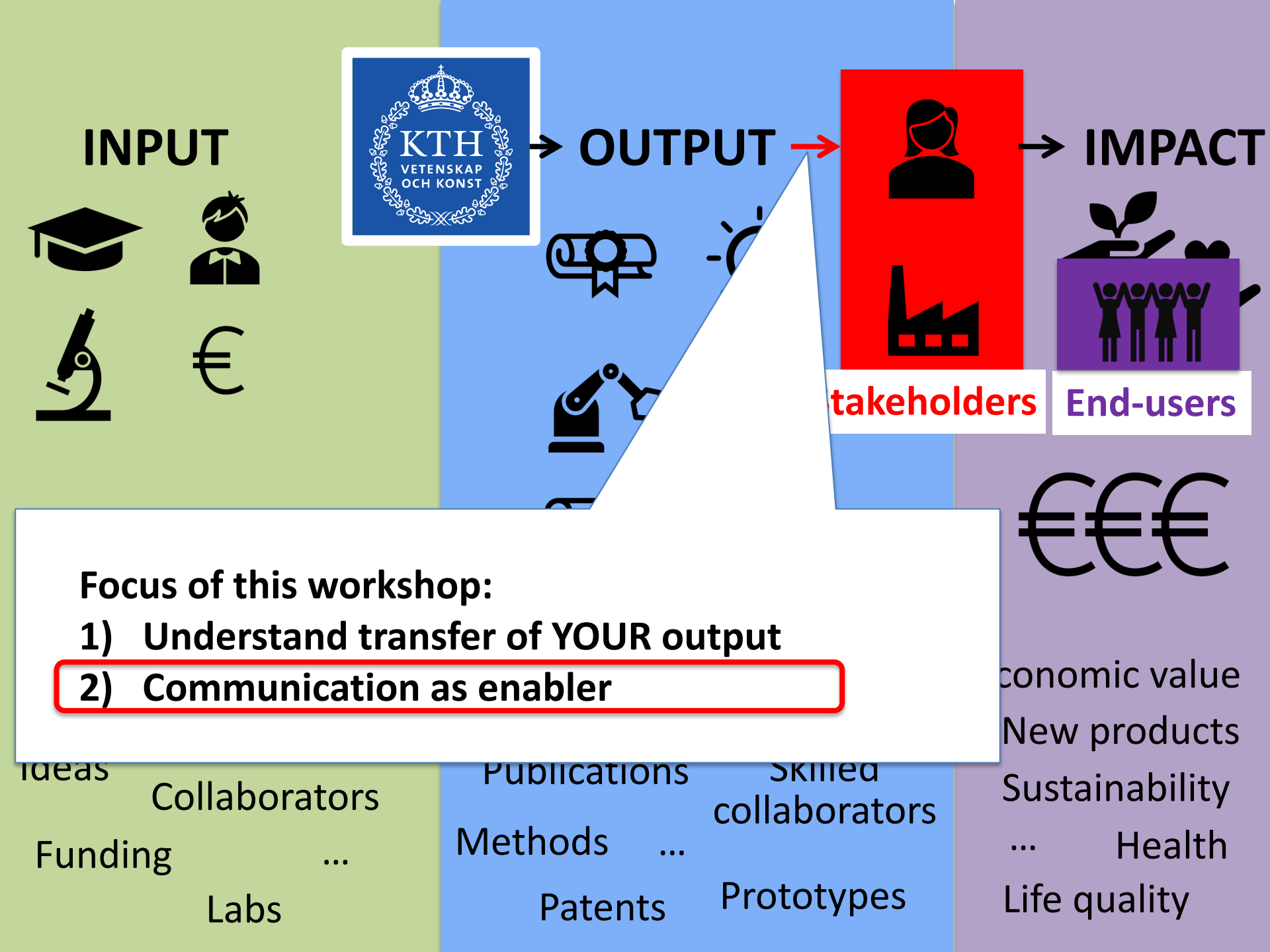
Engage with KTH Innovation
(e.g. Gustav Notander <notander@kth.se>)

Organize a workshop with your stakeholders

- Identify key stakeholders and THEIR impact areas
- List the specific goals of the workshop
- Identify the best activities to reach the goals
- Execute the workshop

Engage with your local Innovation Office (e.g. KTH Innovation: Gustav Notander notander@kth.se)

and/or your local events planner (e.g., evenemang@kth.se)


INPUT
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conomic value
New products
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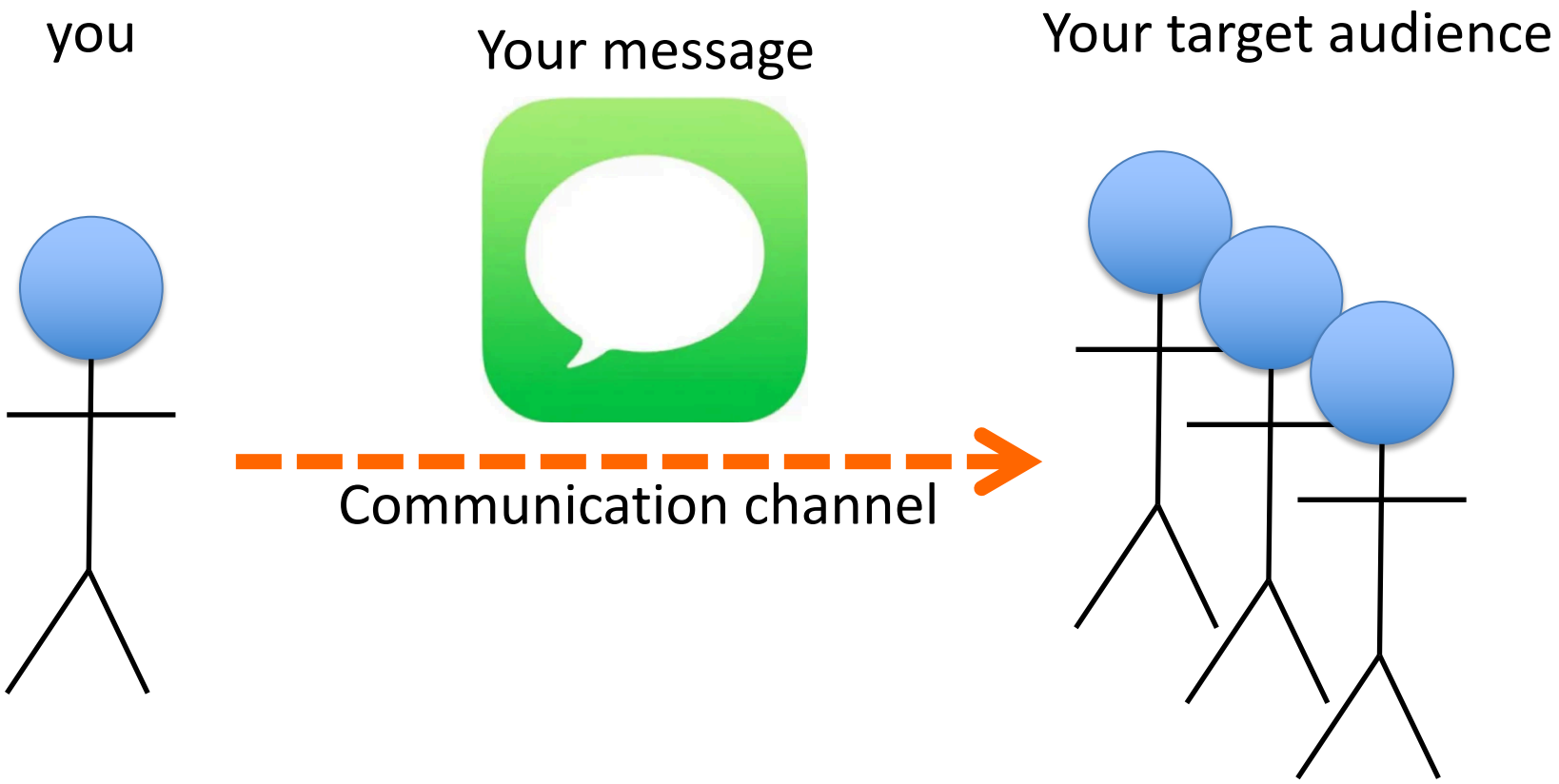
…
Health
Life quality

This presentation:
Five easy & tangible processes

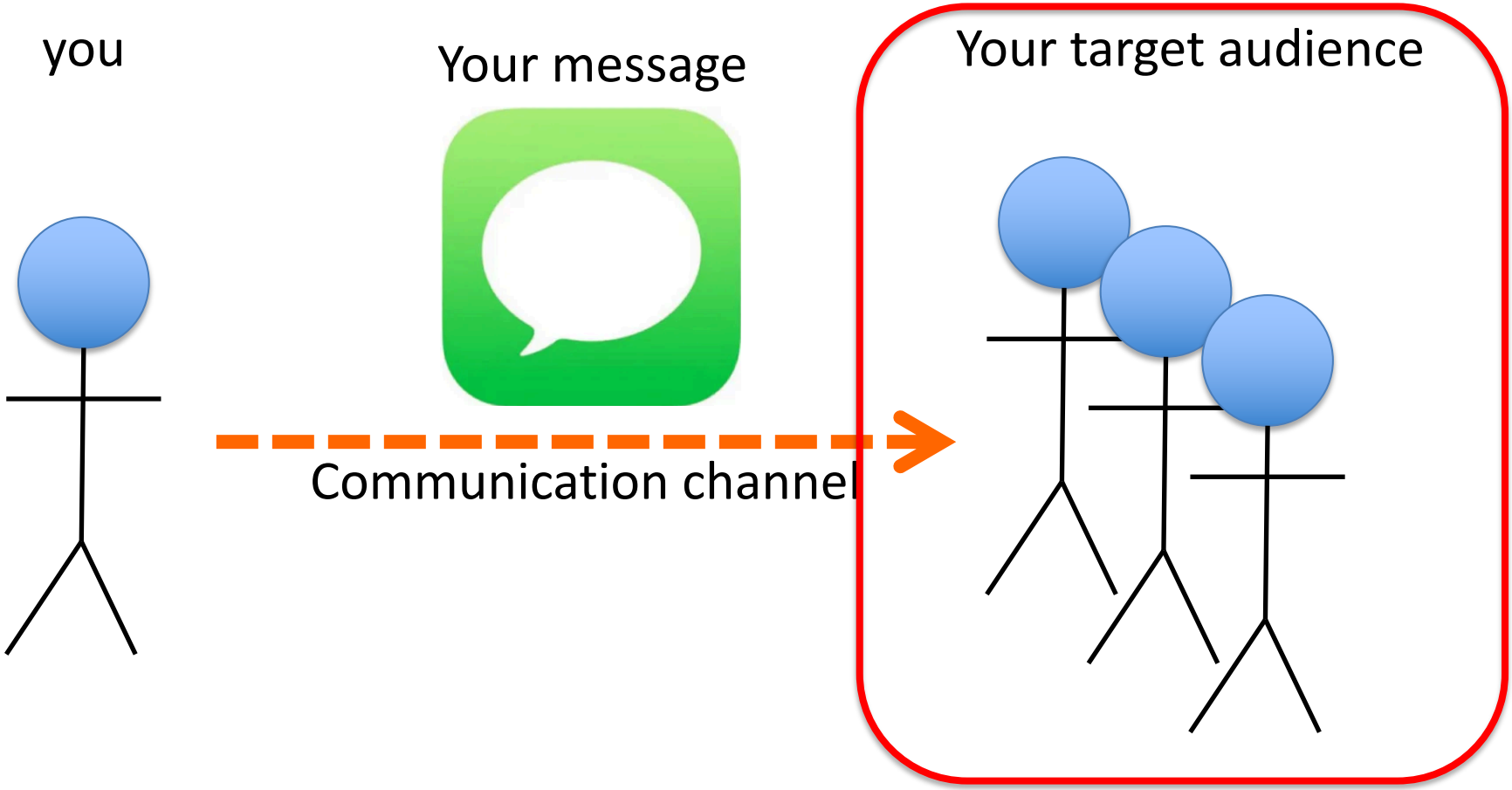
Communication as enabler:

1. Publish a news release
2. Publish a video / make an elevator pitch
3. Update your project / profile website
4. Updating Wikipedia

Communication



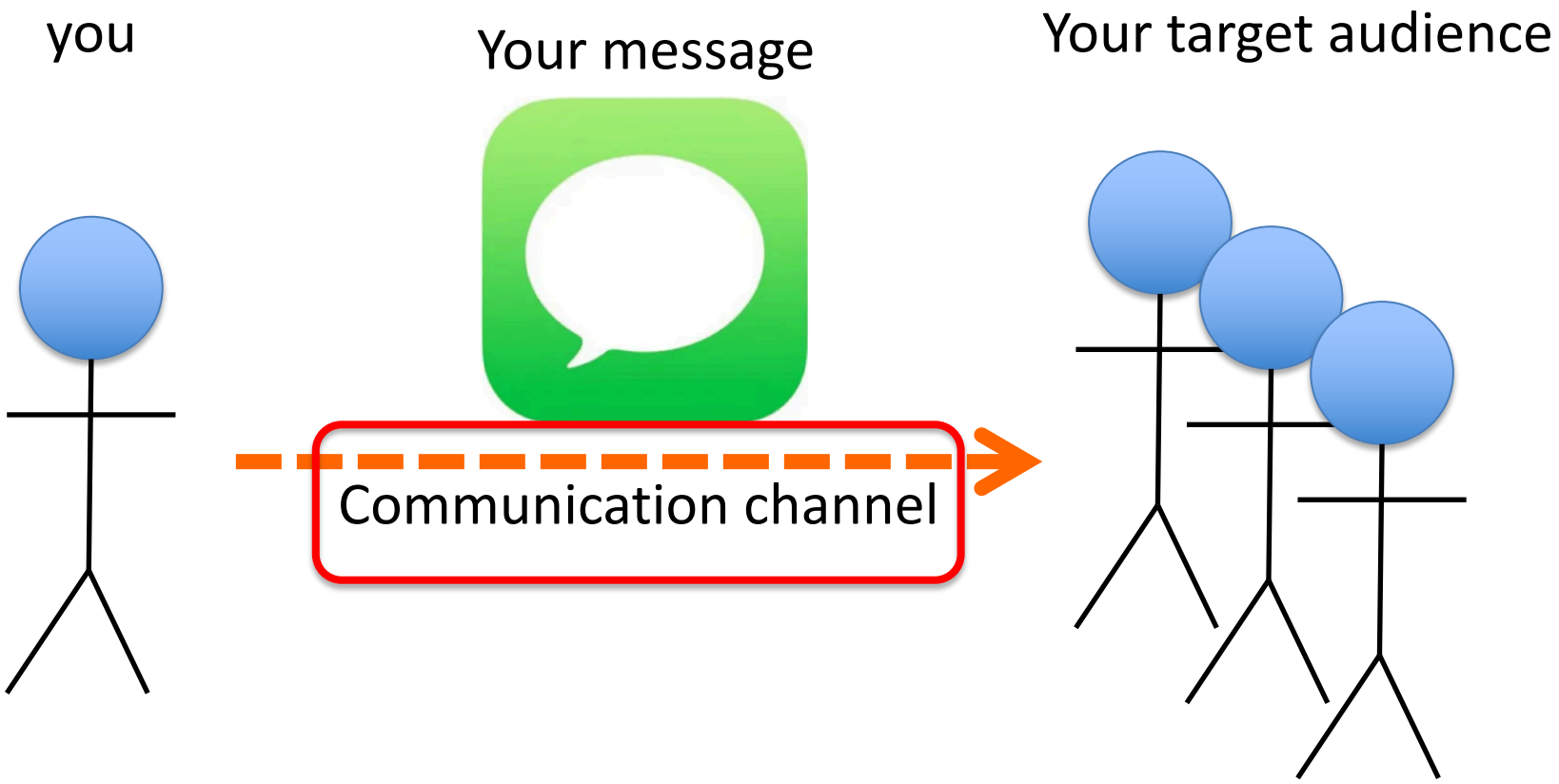
Communication: target audience



IMPACT on your target audience

- Bring your results to value → **your stakeholders**
- Inform **society** about ongoing research
- Increase citations → **your scientific peers**
- Attract the best **potential students**
- Attract **potential collaborators**
- Increase your funding → **politicians, funding organisations, scientific reviewers**

Communication planning step 1



NOTE: This table is not complete and as example only !!!

		Communication channel						
		LnkdIn	**FaceBk**	**Twittr**	**Your website**	**Newspaper**	**Workshop**	**Other**
Target audience	**Peers**	X		X	X			Specialised magazines
	Prospective students	X	X		**X**			Internships, visits, …
	Potential Collaborators	X			**X**		X	Email phone
	Funding bodies/politics	?	?	X	X	X	X	
	Sweden AB	X	X			X		

Have you considered: NATURE/SCIENCE/other journals' "Correspondence", "Review" or "Perspectives" articles? (e.g., https://www.nature.com/nature/for-authors/other-subs)

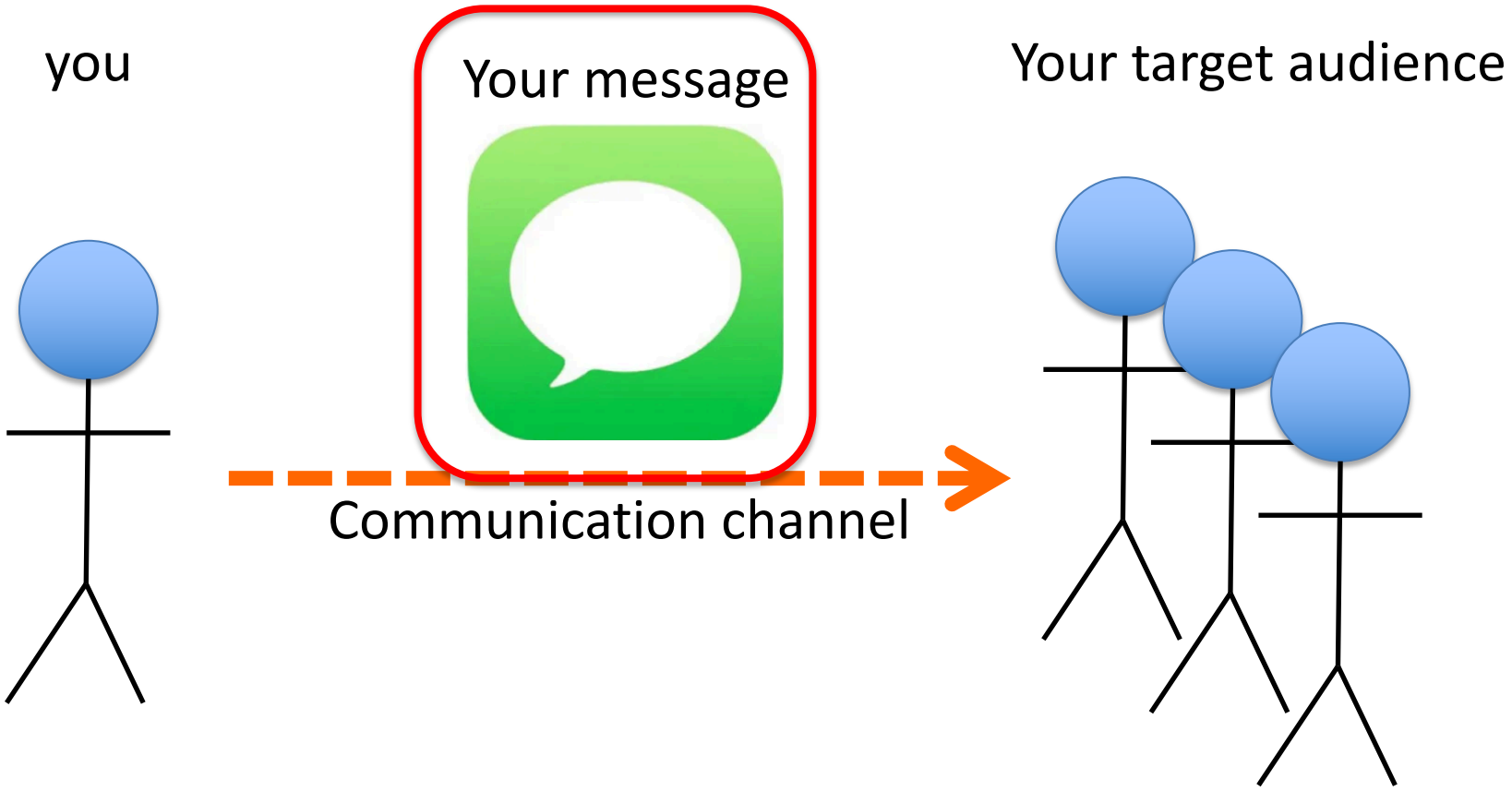
NOTE: This table is not complete and as example only !!!

		Communication channel						
		LnkdIn	FaceBk	Twittr	Your website	Newspaper	Workshop	Other
Target audience	Peers	X		X	X			Specialised magazines
	Prospective students	X	X		X			Internships, visits, …
	Potential Collaborators	X			X		X	Email phone
	Funding bodies/politics	?	?	X	X	X	X	
	Sweden AB	X	X			X		

Have you considered NATURE/SCIENCE/etc "Correspondence", "Review" or "Perspectives" articles?

(e.g., https://www.nature.com/nature/for-authors/other-subs)

Communication planning step 1



What do…

- A news release (website or social media)
- A good scientific journal abstract
- An elevator talk
- A short video

have in common?

The format of an impactful message

The format of an IMPACTFUL message

(0. Catchy sentence)

1. General picture / Introduction to an area
2. Specific challenges / needs in the field
3. Your solution
4. Major results
5. How this can change the world = potential impact

Why should I care?

"SO WHAT?"

Non-technical language

Technical language

The format of an IMPACTFUL message

(0. Catchy sentence)

1. ~~General picture / Introduction to an area~~
2. ~~Specific challenges / needs in the field~~
3. Your solution
4. Major results
5. How this can change the world = potential impact

Tip:
Skip 1 & 2 in case of elevator pitch or poster pitch
(when superlow attention span of your audience)

How NOT to write for a general public…

1. General picture / Introduction to an area
2. Specific challenges / needs in the field
3. Your solution
4. Major results
5. How this can change the world = potential impact

← **Technical language**

Write a news feed and publish it

- **WHEN:** every time you publish a paper!

(Why would you publish if not your stakeholders should know about it?)

- **HOW:**
  - Describe what / why / when / who / how: intra.kth.se/en/administration/kommunikation/tipsa-om-nyheter/ringa-in-nyheten-1.471291
  - Look at examples of others.
  - Add images !!! If needed use free & generic images – e.g. Creative Commons (creativecommons.org)
  - Engage with your school communicator: Maria Malmqvist, marma@kth.se; Anna Gullers, agullers@kth.se

    (they may (not) put it on the school FB channel…)
  - **Post on a channel focused on your target audience!**
  - Post on your own website / Division news / Social media channels

Keywords or hashtags

- Use them on:
  - Scientific articles
  - Your profile page
  - Project websites
  - LinkedIn / FB / Twitter posts
- Keywords determine whom will find your work via social media/search engines
- **Increase impact by chosing keywords that attract your stakeholders !**

Write a news feed and publish it

Do not forget!

- Hashtags!
- A weblink to your publication
- Recognize your co-authors appropriately
- Make sure your co-authors also publish the news on their channels.

Wouter van der Wijngaart
Professor in Micro and Nanosystems at KTH Royal Institute of Technology
1mo • Edited •

When →

Our latest article in the journal "Medical Devices & Sensors": "A loop-shaped minimally invasive brush for improved cytology sampling of pancreatic cysts during EUS-FNA". https://lnkd.in/eRJqqdD

← Link to publication

We developed a brush to extract cells from the inner wall of pancreatic cysts. Pancreatic cysts are - if malignant - precursors of pancreatic cancer. Our brushes are designed to be inserted into the cyst during minimally invasive upper GI endoscopy through a fine needle (22G = 413 µm inner diameter) after which they expand and brush the inner surface of the cyst. Aspirating the cells via the needle will allow subsequent analysis and determining malignancy. We hope this will enable the early diagnosis of pancreatic cancer and thereby increase patient survival rates.

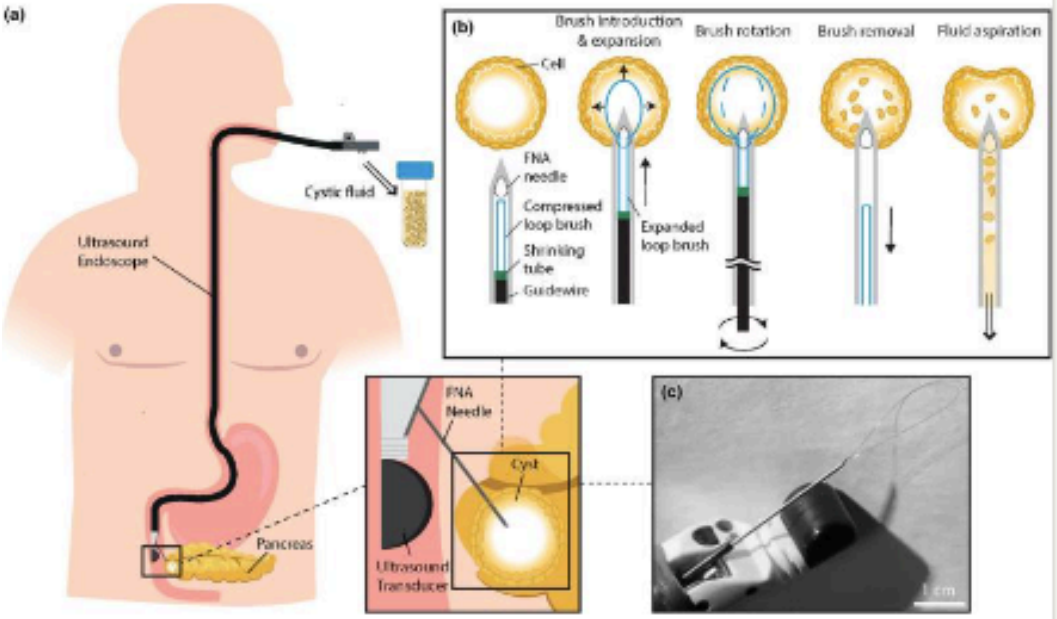
← What

← Why

Co-author → (With Filipe Marques and others.)

#KTH #karolinska #cancer #medicine #healthcare #research #medicaldevices #medical #MEMS #pancreaticcancer #oncology #science #endoscopy

← Hashtags



Images

Like Comment Share Send

Your post posted on January 18, 2021

57 reactions

2,908 views | 2 reshares

105 people from KTH Royal Institute of Technology viewed your post

University of Twente	34
Chalmers University of Technology	17
Lund University	15
Karolinska Institutet	15
KU Leuven	14
McGill University	13
Novo Nordisk	13
UMCG	11

178 people who have the title Research Fellow viewed your post

Laboratory Scientist	146
University Professor	146
Student	135
Engineer	74
Software Developer	44
Salesperson	40
Founder	40
Business Strategist	39

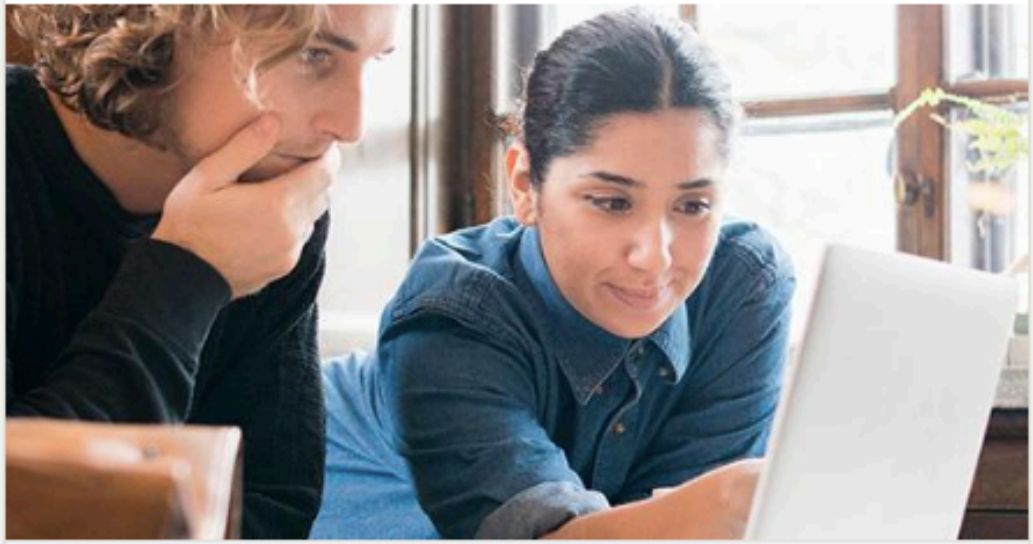
196 people viewed your post from Stockholm, Sweden

Stockholm County, Sweden	87
Enschede Area, Netherlands	56
Gothenburg, Sweden	43
Antwerp Area, Belgium	37
Istanbul, Turkey	34
Copenhagen Area, Capital Region, Denmark	32
Greater Boston Area	29
Barcelona Area, Spain	28

Wouter van der Wijngaart
Professor in Micro and Nanosystems at KTH Royal Institute of Technology
1w • Edited •

Spread the word: we look for a doctoral student with a genuine interest in MEMS/materials chemistry, a strong driving force, and a problem-solving approach for a new project on smart matter. This doctoral project aims to synthesize, functionalize and tailor-make new stimuli-responsive polymer gels. These serve as material digits in a hybrid matrix with thermal and magnetic actuators translating the system to reversible sol-gel transitions. Research includes collaboration with researchers in micro- and nanosystems, electronics, and robotics. Materials are developed with sustainability as a guiding principle and renewability/recyclability in focus.
For research collaboration with **Ulrica Edlund** and **Wouter van der Wijngaart**.

#kth #recruitment #phdstudent #materials #MEMS #robotics #polymer #recycling #sustainability #technology #engineering #programmablemattter



Doctoral student in responsive polymer gels for recyclable materials

kth.varbi.com • 3 min read

Like Comment Share Send

Doctoral student in responsive polymer gels for recyclable materials

20 reactions

94 people from KTH Royal Institute of Technology viewed your post

Karolinska Institutet	14
Chalmers University of Technology	13
University of Twente	7
Colorado State University	5
KTH | Kungliga Tekniska högskolan	5
EPFL (École polytechnique fédérale de Lausanne)	4
Statnett SF	4
SciLifeLab	4

96 people who have the title Research Fellow viewed your post

Student	84
University Professor	71
Laboratory Scientist	69
Engineer	24
Consultant	17
Executive Director	17
Salesperson	16
Founder	12

144 people viewed your post from Stockholm, Sweden

Stockholm County, Sweden	61
Gothenburg, Sweden	22
Enschede Area, Netherlands	16
Helsinki Area, Finland	14
Greater Boston Area	12
Uppsala, Sweden	11
Antwerp Area, Belgium	11
Fort Collins, Colorado Area	9

Make a short movie

- Concatenate 6-10 ppt slides
- Use free & generic images – e.g. Creative Commons (creativecommons.org)
- Movie software: e.g. iMovie (Mac)
- Our attention span is ~45 s
- Publish:
  - Engage with your school communicator: Maria Malmqvist, marma@kth.se; Anna Gullers, agullers@kth.se
  - (they may (not) put it on the school FB channel…)
  - Post on a channel focused on your target audience.
  - Post on your own website / Division news / Social media channels. **Youtube !!!**
  - Make sure your co-authors publish it on their own social media

Example of movie made in 6 hours by my PhD student

youtube.com/watch?v=78VuJxcvqpM&t=7s

Examples of movie made by KTH communicators

youtube.com/watch?v=QQSWB9FGOlA

Update Wikipedia

- **WHAT:**
  - **Put references to your scientific publications on 2-3 relevant Wikipedia pages.**
  - Neutral information – no marketing
  - Preferably: Add a new sentence on an existing page
  - If needed: Create a new section on an existing page
  - If needed: Create a whole new page
  - **(HINT: Ask every of your PhD students to do this for each of their publications).**

"Is it okay to put your own work on Wikipedia?"

https://en.wikipedia.org/wiki/Wikipedia:Conflict_of_interest#Citing_yourself

Using material you have written or published is allowed within reason, but only if it is relevant, conforms to the content policies, and is not excessive.

Citations should be in the third person and should not place undue emphasis on your work.

Adding numerous references to work published by yourself and none by other researchers is considered to be a form of spamming.

Personal TODO list after publishing a journal article:

1. Write a news release (I sometimes try to engage a KTH communicator to do this for me)
2. Ask to post news release on KTH central (contact Peter Ardell – p3t3r@kth.se) or KTH school channels (EECS → contact Maria - marma@kth.se)
3. Link to news release on LinkedIn and Facebook, specifically on Channels aimed at my target audience.
4. Email a link to DN, SvD, NyTeknik, Kemivärlden, other specialised magazines.
5. Update Wikipedia on 2-3 places with a reference to the publication

Follow-up the efficiency of your communication

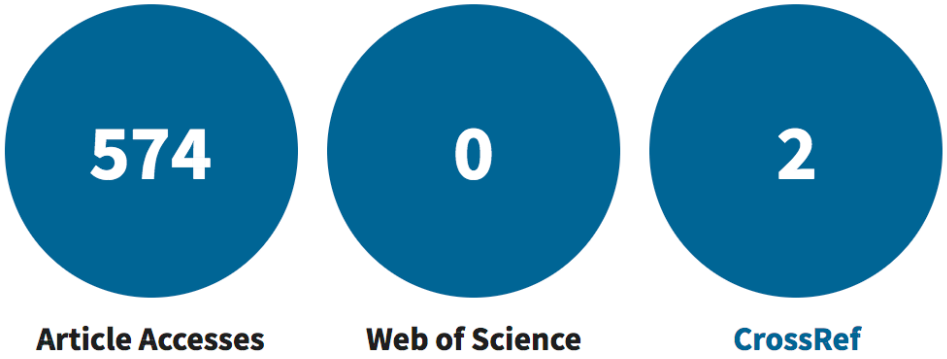
Check your publication's **ALTMETRIC** score:

https://www.altmetric.com/products/free-tools/bookmarklet/

(Create a bookmark in your browser + click that bookmark when on an article page.)

LinkedIn allows tracking the outreach of your posts.

Total citations



Online attention

Altmetric score (what's this?)

- Tweeted by **2**
- Blogged by **2**
- On **1** Facebook pages
- Mentioned in **2** Google+ posts
- Picked up by **7** news outlets
- **2** Wikipedia

19 readers on Mendeley

Show less

This Altmetric score means that the article is:

- in the 96th percentile (ranked 12,083rd) of the 347,833 tracked articles of a similar age in all journals
- in the 91st percentile (ranked 1st) of the 12 tracked articles of a similar age i

Microsystems & Nanoengineering

ALTMETRIC Score

Mentions in news, blogs & Google+

News articles (7) | **Scientific blogs (2)** | **Google+ posts (2)**

More-sensitive DNA nanowires promise better measurements of biological processes
Breitbart News Network

Guld och DNA ska upptäcka sjukdomar
My News Desk

Twitter demographics

E.g.: https://www.nature.com/articles/micronano201784/metrics

How well does your department do in communication ?

https://abm.sys.kth.se/app/abm

Look for the ALTMETRIC link at the bottom!

Your own profile page

https://intra.kth.se/en/eecs/vs-stod/kommunikation/din-profilsida-1.896803

- Have a profile picture
- **Add hashtags at the bottom of your page - this will increase your hit-rate in search engines such as Google.**
- Write an overall text focusing on your research or work area. Don't forget to mention the significance / potential impact of your work.
- Present yourself towards the end of the text, and include data such as when and where you got your master degree, PhD degree and postdoc.
- Add subpages, known as portfolio pages, for deeper information about a specific topic, for example a research project
- Activate your research ID's to make them appear at the top of the page
- Activate the link to your publications
- Activate the link to your courses

Your KTH profile page

- Pages without hashtags are not found
- Pages without images are not looked at
- …

intra.kth.se/en/eecs/vs-stod/kommunikation/din-profilsida-1.896803

Gather all your Division/Department news outputs

- Example: www.kth.se/mst/news

- If your Department's last news update was 2018, you can update this retroactively.

- Think of reporting your dissemination to the RAE !

Division workshop idea:
30 min workgroups

- **Work on a NABC analysis or prepare an industrial workshop**

Room A

Room B

- **Improve your profile page or a KTH web page**

Room C

Room D

- **Make a news release or a video for social media**

Room E

Room F

- **Update WIKIPEDIA**

Room G

Room H

We gather for a short wrap up session on the original meeting link.

Time for questions, and maybe someone wants to share their result from the workshop?