



APPROACH

ADVANCED PHOTONIC PROCESSES FOR NOVEL SOLAR ENERGY HARVESTING TECHNOLOGIES

HOW TO DO A BUSINESS AS A YOUNG SCIENTIST

VOJTĚCH KADLEC, UNICO



OUTLINE

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MOTIVATION

EXPERIENCE

BARIERS

GAINS & LOSTS

INTRODUCTION

UNICO

At UNICO, we **accelerate the path to innovation** for companies.

We find the best technologies and experts to develop new products; we optimize corporate intellectual property from a business perspective; we connect companies with universities and ensure the effectiveness of their collaboration. We evaluate new technologies and validate their commercial potential. We shape innovation policy in cooperation with national and international organisations.



MOTIVATION

Why should researcher start the business?

Internal

- Want to do things different way
- Get freedom
- There is no other way
- Earn serious money

External

- It is cool 😊
- Inspiration from success stories
- Existing support



MOTIVATION

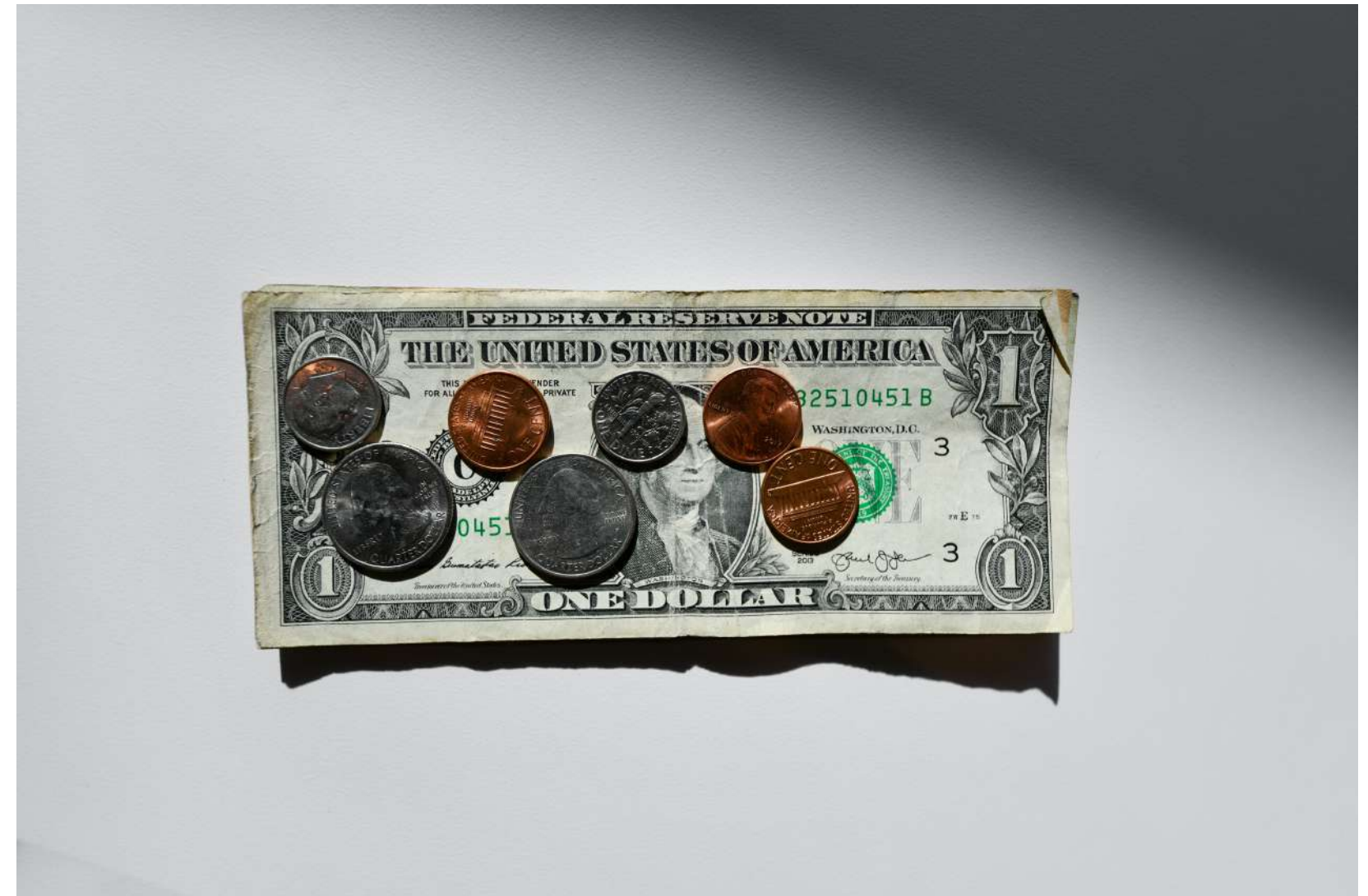
Why should as a researcher to start the business?

Situation today

Gross median salary of researcher (not necessary young):

- in life sciences is **52 996 CZK***.
- in social sciences is **39 114 CZK***.

My experience as (former) young researcher is approx. **35 000 CZK**.



*CSO

MOTIVATION

Why should as a researcher to start the business?

Situation today

Duties of young research:

- do the research
- teach
- write projects
- write paper (ideally in TOP journals)

Young researchers have to prove, they deserve to be part of the “tribe”.



MOTIVATION

Why should as a researcher to start the business?

How the science is financed

Case of UPOL (2023):

Institutional = Education: 67 % (1,85 MLD CZK)

Purpose = Projects: 30% (0,84 MLD CZK)

Commercial: 3% (0,09 MLD CZK)



HOW IMPORTANT CAN BE THE BUSINESS FOR THE UNIVERSITY?

MOTIVATION

Why should as a researcher to start the business?

The University of Cambridge revenue by year (millions)



■ Investment income
 ■ Donations and endowments
 ■ Other income
 ■ Funding body grants
■ Tuition fees and education contracts
 ■ Research grants and contracts
 ■ Examination, assessment and publishing services

<https://wordrated.com/the-university-of-cambridge-revenue-statistics/>



MOTIVATION

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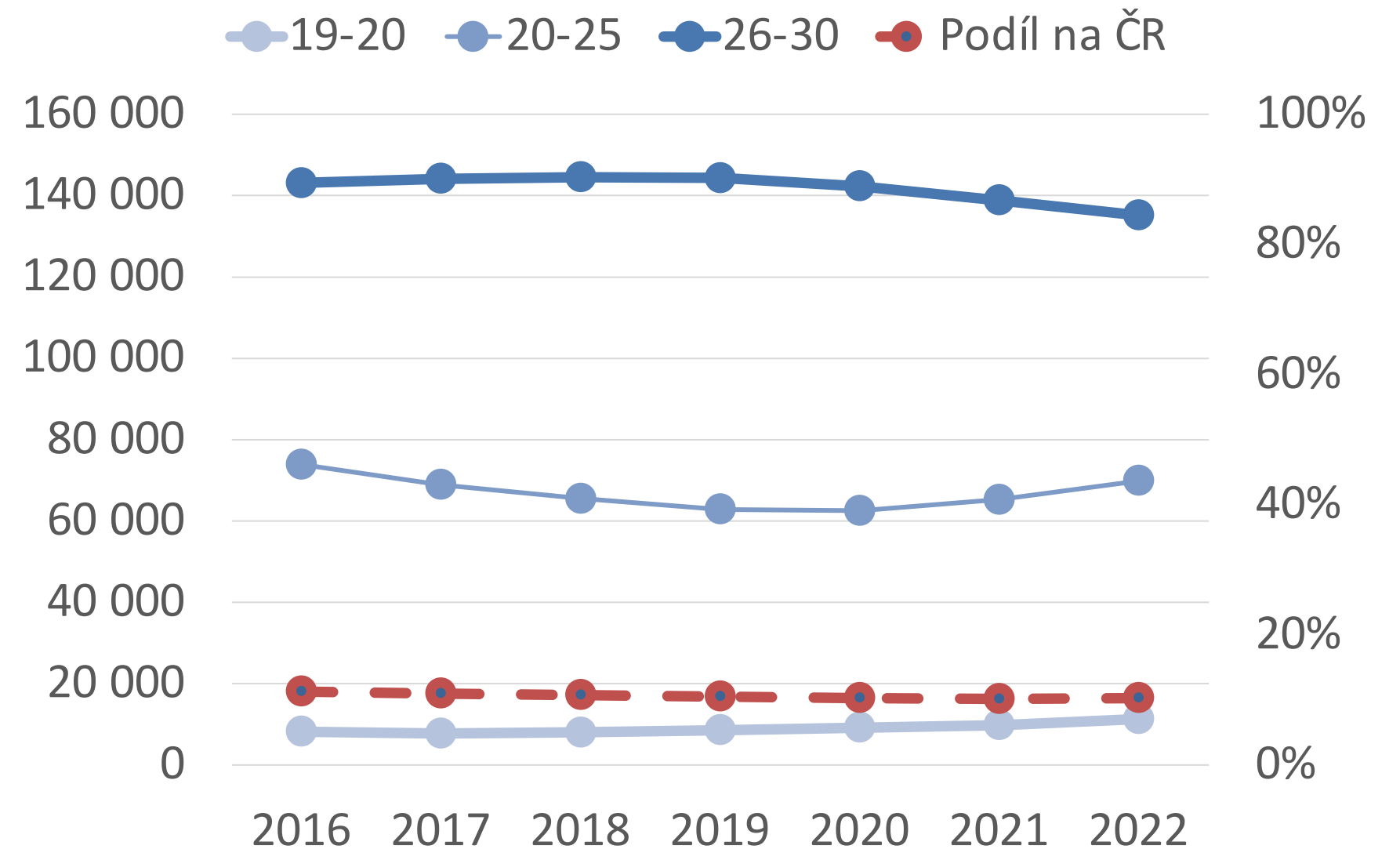
MOTIVATION

Why should as a researcher to start the business?

How much of young people do the business?

The share of young population doing business don't change over time (continuously around 10%).

IS THE ENTREPRENEURSHIP TREND OF CURRENT YEARS?



EXPERIENCE

How the young research feel at academia when do business?

My personal experience

I started work in consultancy company in the last year of bachelor studies and my own business I founded during the third year of my PhD.

There is pressure in the academy for PhD students to complete their studies in the proper time. That didn't work out for me 😊

(instead of finishing in year 3, I finished in year 6).

HOWEVER...



EXPERIENCE

How the young research feel at academia when do business?

My personal experience

I finished my PhD with the theses awarded by professional society (Czech Geographic Association) as the best thesis in the field.

BUT, THROUGH THE STUDIES I HAD TO FACED TO SOMEWHAT DISPARAGING REMARKS FROM SOME ACADEMICS THAT I'M IN THE BUSINESS.

AND THESE COMMENTS WERE AMPLIFIED THE MOMENT I GOT A TENURE-TRACK FACULTY POSITION AS AN ASSISTANT PROFESSOR, EVEN THOUGH I HAVE MY OWN BUSINESS.



EXPERIENCE

How the young research feel at academia when do business?

My personal experience

These remarks were:

“How he can do research, when he is doing business?”

“He is not teaching enough”

“He has the protection”

etc.



EXPERIENCE

How the young research feel at academia when do business?

After 4 years

- I earn faculty more money than was my cost (publications in Q1 and grant)
- Most of the people accepted my hybrid role and recognize my added value
 - practically oriented lectures
 - bringing research attractive challenges (shaping the research)
 - bring new collaborations with business
- I am presented as example of successful absolvent



BARIERS

What still limits the entrepreneurship of young research?

Challenges to overcome

Almost none of the senior researchers motivate their PhD students or PostDocs to start their own business (or at least validate their research on the real market).

IS SCIENCE AFRAID OF NOT ATTRACTING
QUALITY PEOPLE (BACK)?



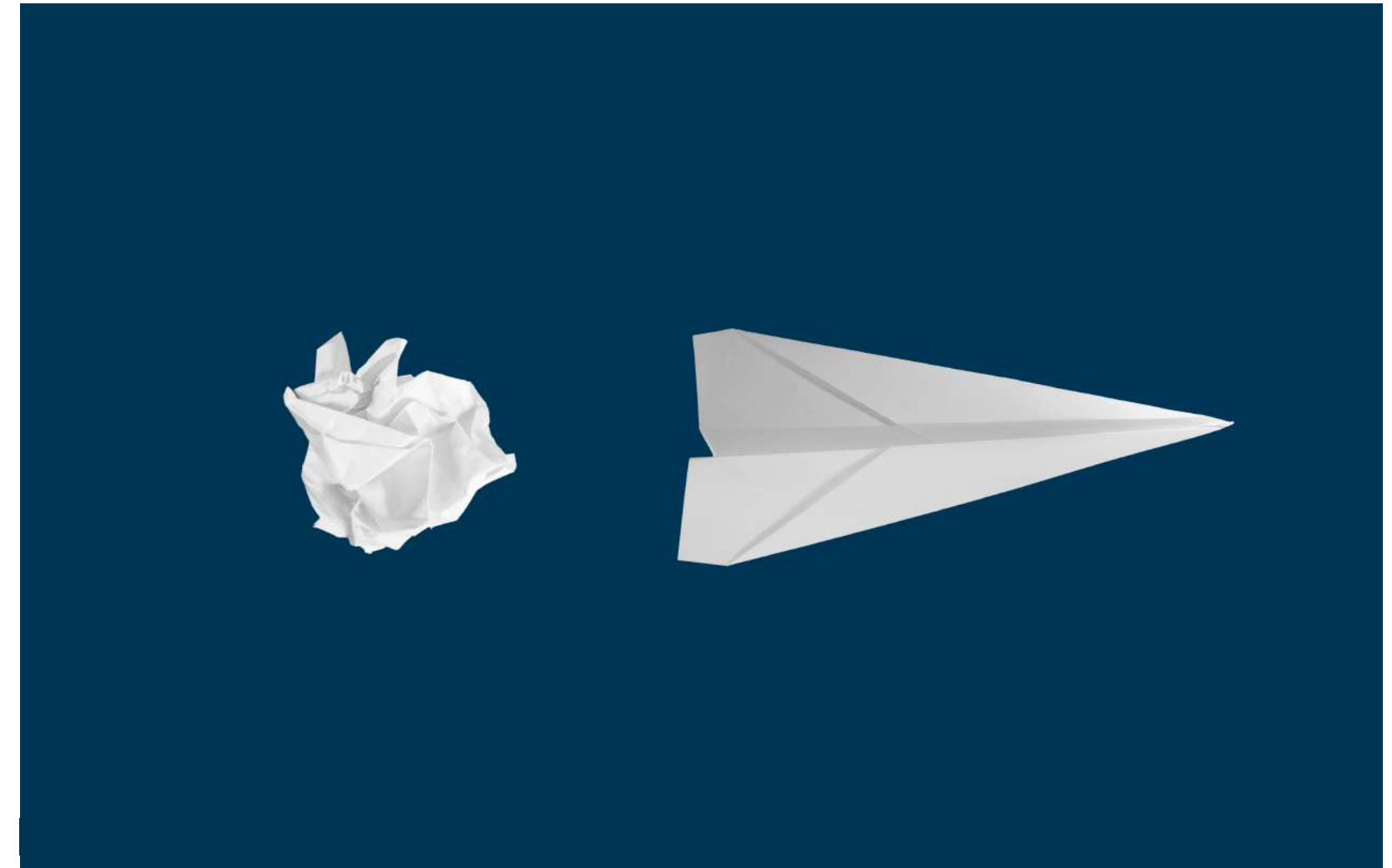
BARIERS

What still limits the entrepreneurship of young research?

Challenges to overcome

Only few senior researchers really understand what is the innovation (new product/service/process/business model applied on the market and users are willing to pay for).

THE LAUNCH OF A RESEARCH RESULT (PROTOTYPE) COSTS MONTHS TO YEARS OF FURTHER DEVELOPMENT IN THE ORDER OF HUNDREDS OF THOUSANDS, MILLIONS OR TENS OF MILLIONS DEPENDING ON THE FIELD.



BARIERS

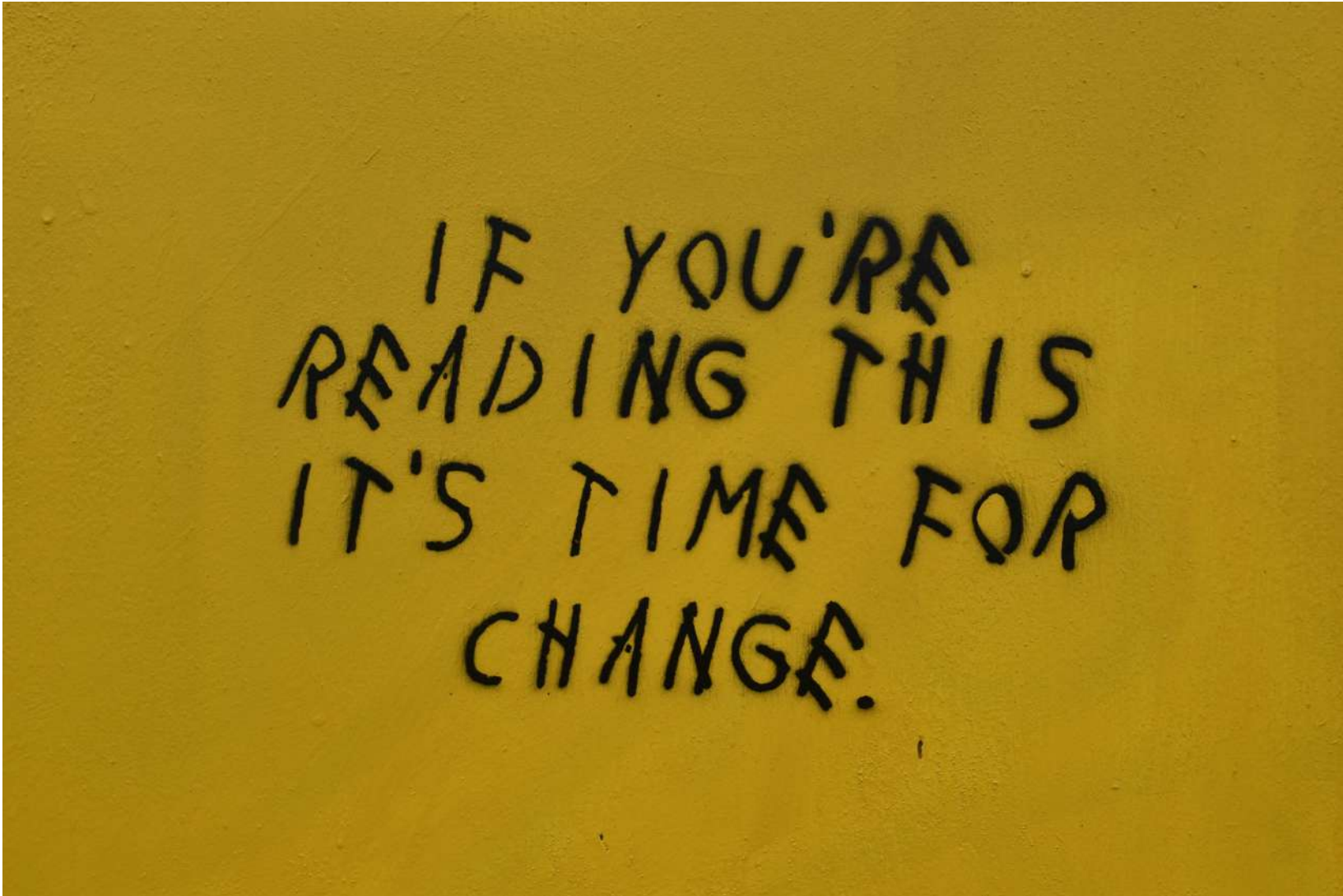
What still limits the entrepreneurship of young research?

Solution?

CULTURE CHANGE NEEDS TIME.

PHD STUDENTS SHOULD HAVE
BUSINESS/ENTREPRENEURSHIP TRAINING AS
AN INTERNAL PART OF THEIR STUDIES.

Personally, I learned these things by trial and error,
and such training would have made my mistakes
cheaper and saved me time (at least for some).

A photograph of a yellow sticky note with handwritten text in black marker. The text reads: 'IF YOU'RE READING THIS IT'S TIME FOR CHANGE.'

IF YOU'RE
READING THIS
IT'S TIME FOR
CHANGE.

BARIERS

What still limits the entrepreneurship of young research?

UNICO experience

At UNICO we are working with young researchers starting their own business and they are facing the challenges mentioned above.

We know several cases, where the founders (young researchers) (almost) burned-out.

They need support not contempt or discouragement.



PROS & CONS

What still limits the entrepreneurship of young research?

CONS

- Culture at academia which still creates more hurdles than support and the young researchers must overcome these hurdles next to the building new products, organization and filling the customers needs.
- It is hard job, and it is not for everyone.
- It takes time to see the results of hard work



PROS & CONS

What still limits the entrepreneurship of young research?

PROS

- You can really do things the way you want
- The entrepreneurship changes the founders, and they get skills, which cannot be learnt.
- If they find the product market fit, they also can make significant money and do the high quality applied research.



Q&A





APPROACH

THANK YOU

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