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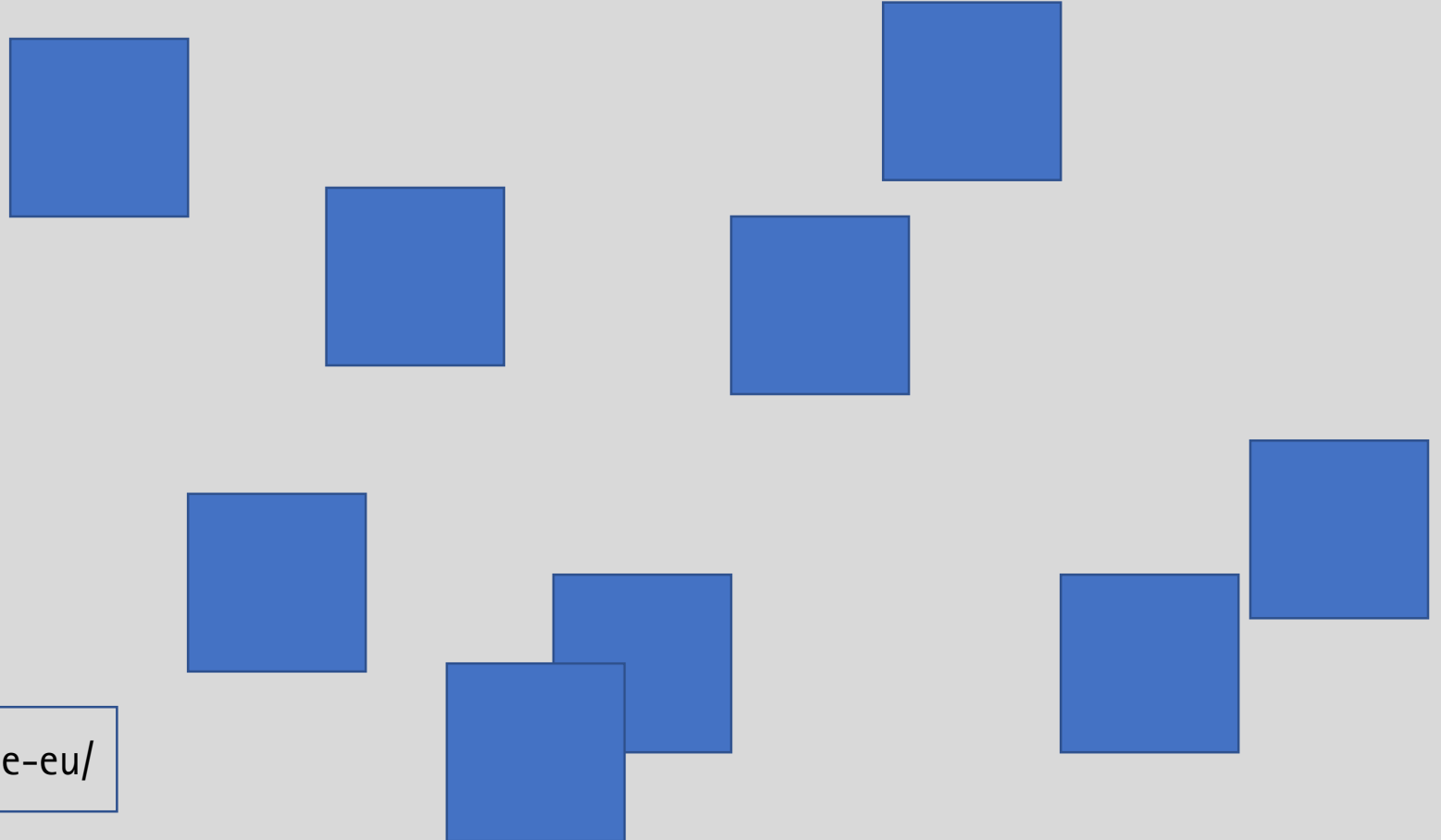
# HOW TO BUILD MICRO DEGREE-PROGRAMMES

© Elke Katharina Wittich with Ralph Ewerth, Marius Lindauer and Johannes Krugel: How to build Micro-Degree-Programmes. Leibniz AI Academy at Leibniz Universität Hannover, 2023

If you would like to use this model, please point to "Model of Leibniz Universität Hannover 2023", <https://zew.uni-hannover.de/de/howtobuild/>

# MICRO CREDENTIALS =

“a qualification evidencing learning outcomes acquired through a short, transparently-assessed course or module. Micro-credentials may be completed on-site, online or in a blended format.”





# MICRO-DEGREE PROPERTIES

short  
time

highly  
flexible

accessed

polyvalent

time  
independent

inclusive

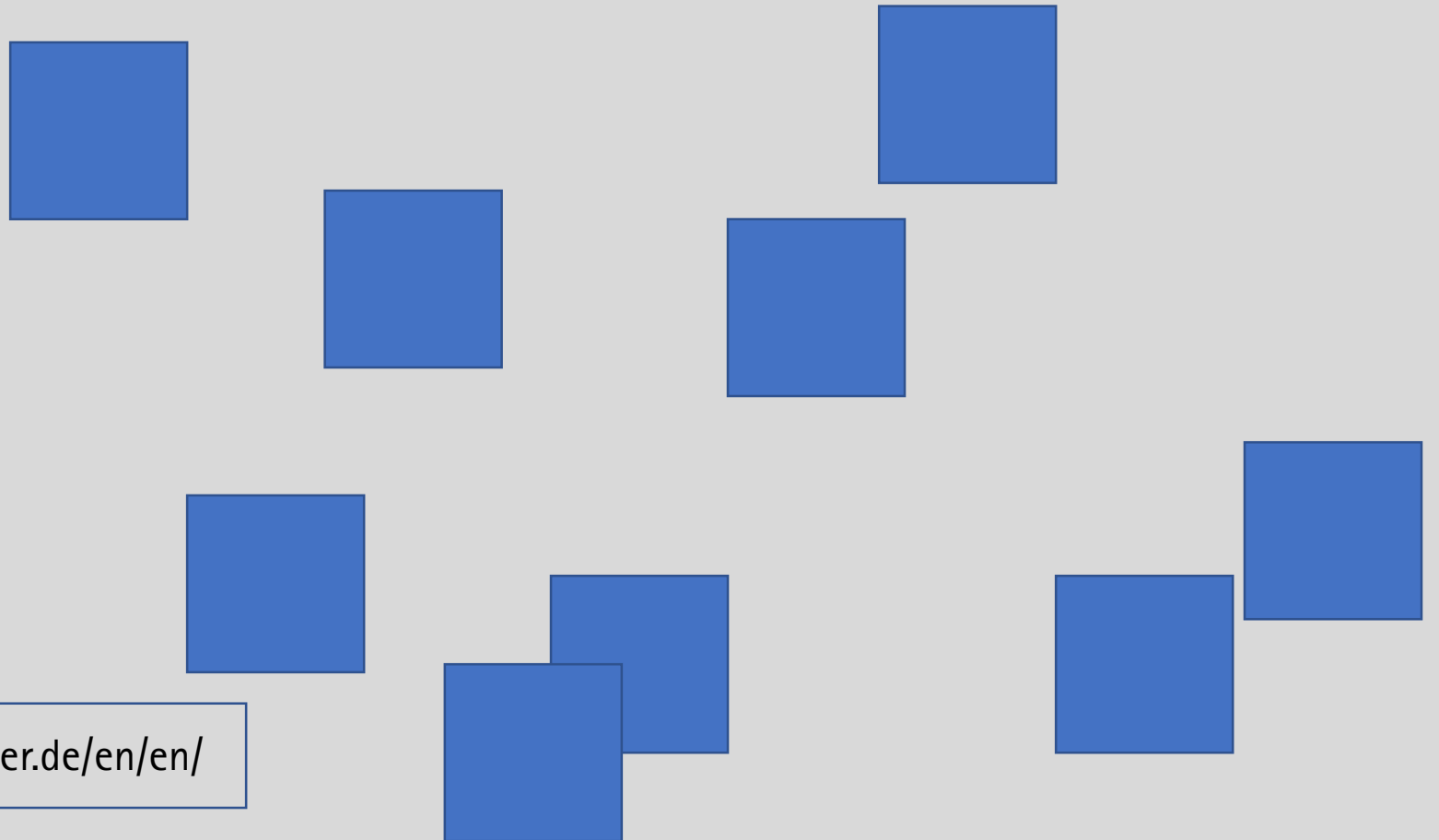
non-local

However, what exactly are **MICRO-CREDENTIALS**  
and **MICRO-DEGREE PROGRAMMES**  
at Leibniz Universität?

# MICRO CREDENTIALS at LUH =

a group of modules with well-defined learning outcomes, developed as polyvalent inter- or transdisciplinary courses for superordinate important subject areas.

At LUH, they can be part of a study programme or provide additional qualifications.



**MICRO CREDENTIALS at LUH =**

a group of modules for superordinate important subject areas such as

**DIGITALISATION**

and

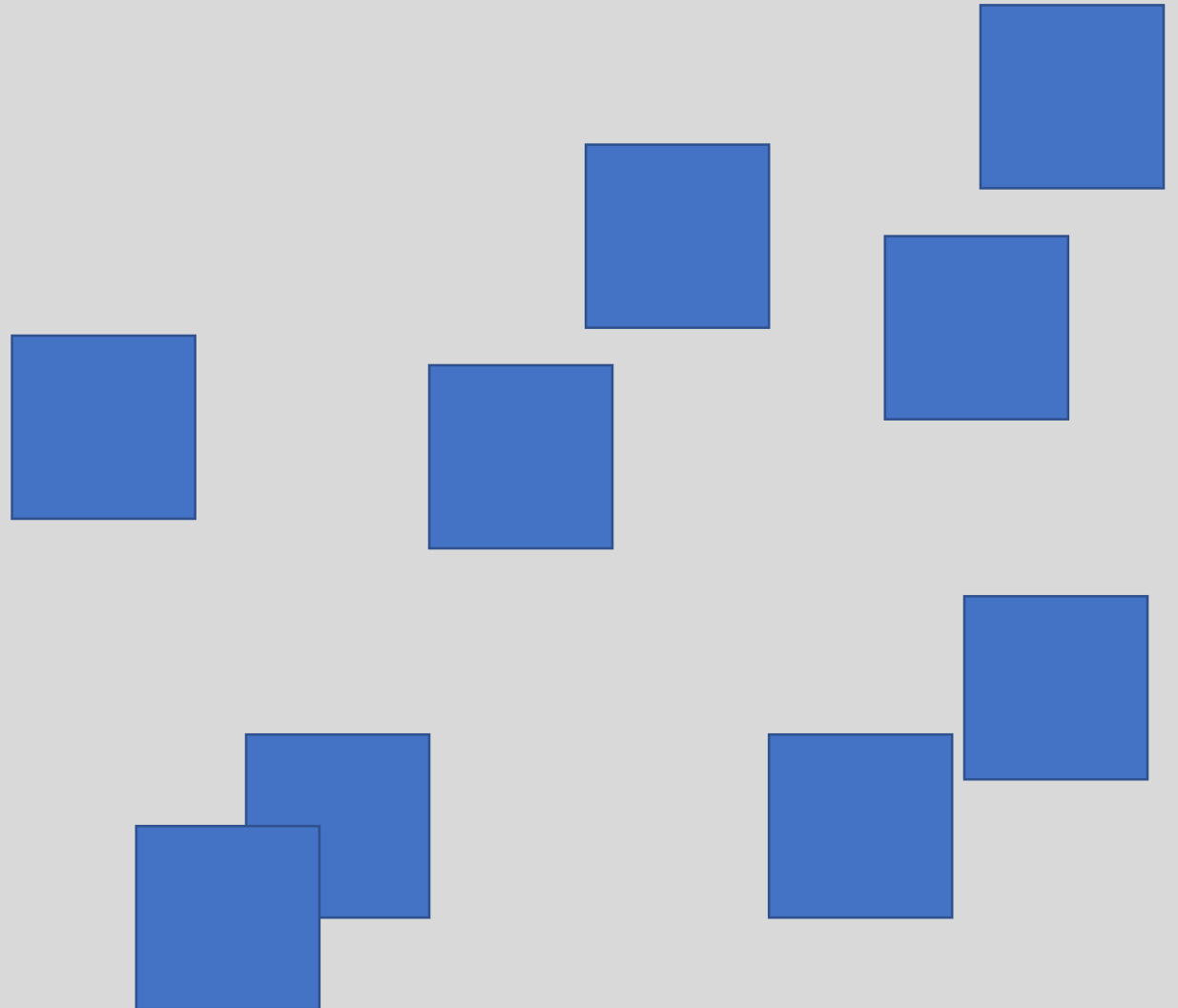
**SUSTAINABILITY**

in applications such as

- PRODUCTION
- GEODESY
- ENERGY
- INSURANCE
- HEALTH
- EDUCATION
- OTHERS

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# MICRO CREDENTIALS at LUH

minimum size                    1 CP  
average size                    5 CP

in principle

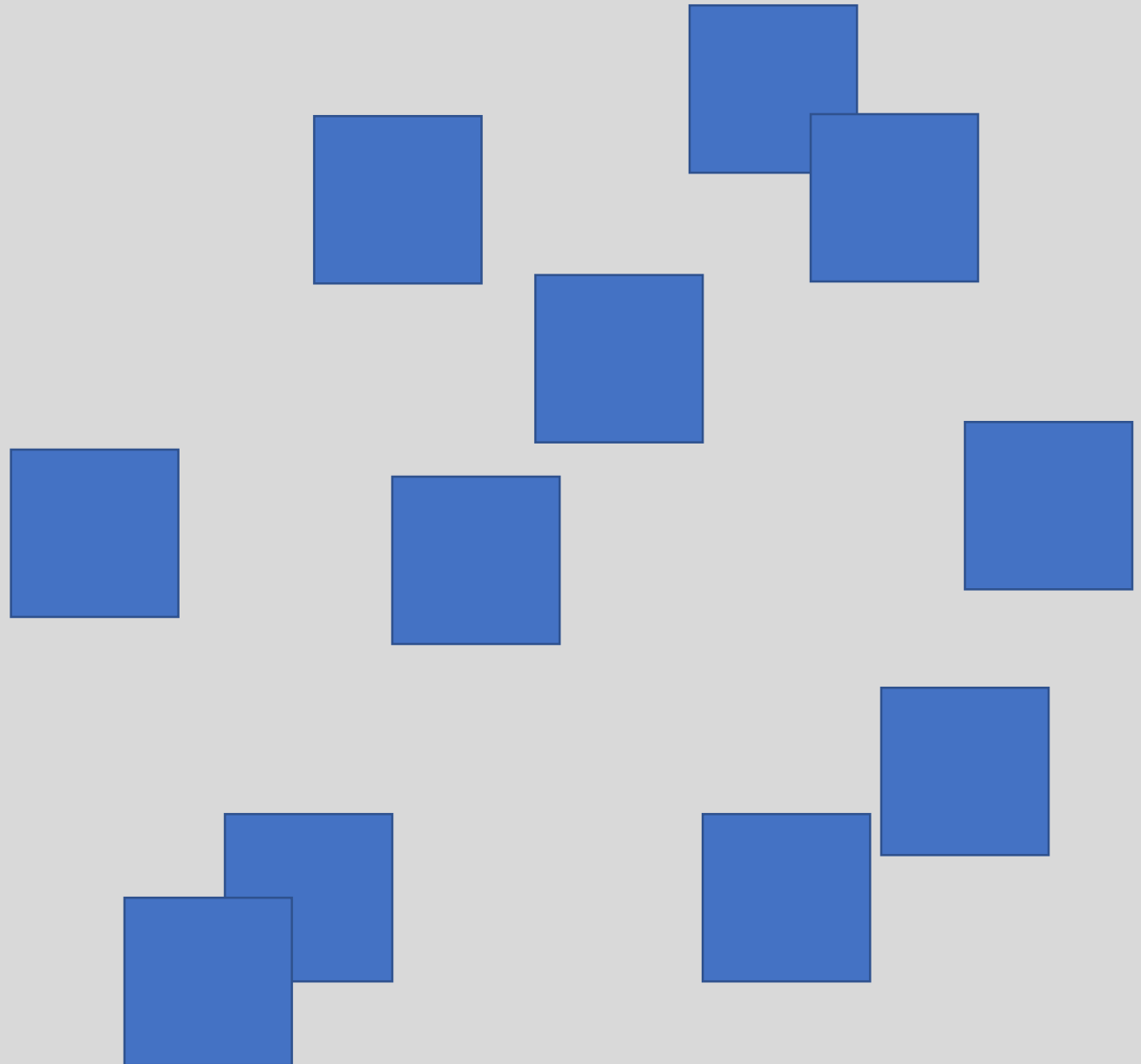
- developed at LUH
- offered by LUH at the KI-Campus
- confirmed by LUH
- counselling and accompaniment by LUH

in principle

- accessed
- defined academic level
- confirmed outcomes
- listed in ESCO (European Skills, Competences and Occupations)

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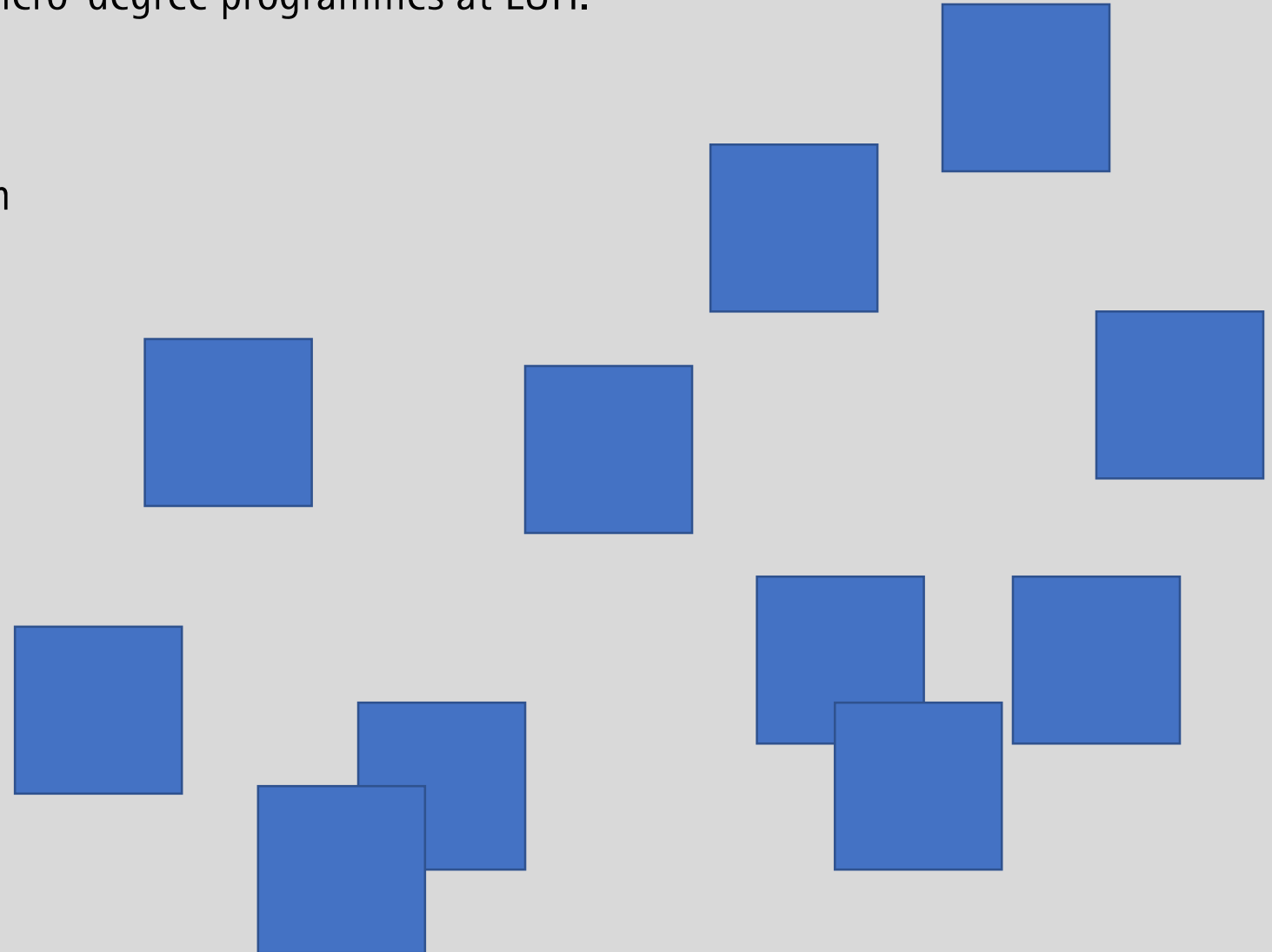


# MICRO DEGREES at LUH =

degree for taking courses and modules in micro-degree programmes at LUH.

Thus

- micro degree programmes are built from several micro credentials
- there is a need in the labour market for exactly this composition
- micro degrees can be cumulated.



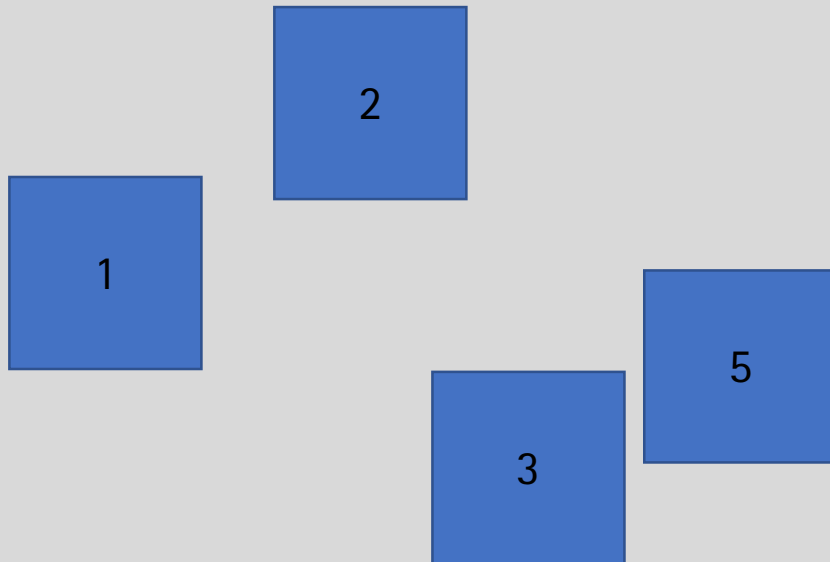
# MICRO CREDENTIALS

minimum size  
average size

1 CP  
5 CP

qualification level

6 or 7 EQF



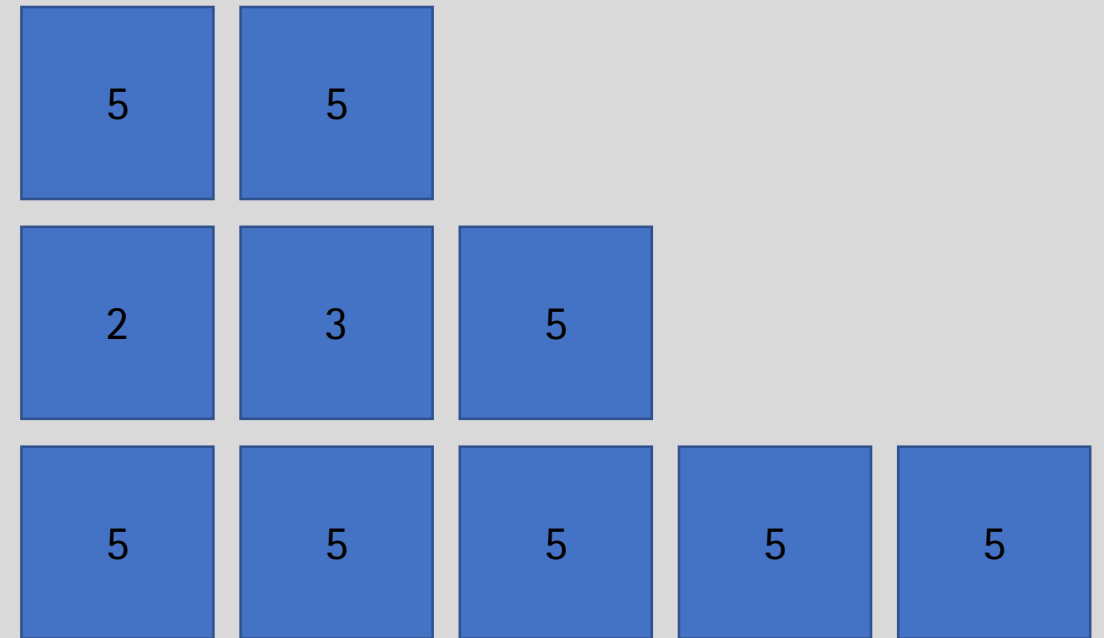
# MICRO DEGREES

minimum size  
maximum size

10 CP  
60 CP

qualification level

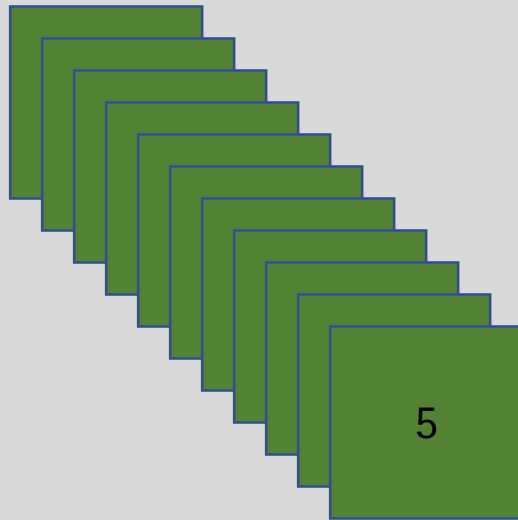
6 or 7 EQF



# HOW TO BUILD MICRO DEGREE PROGRAMMES?

# THE SIMPLEST WAY TO BUILD MICRO DEGREE PROGRAMMES

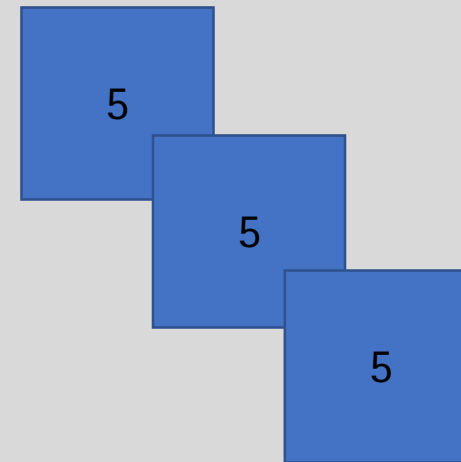
Someone has completed a university degree.



Received an Bachelor of Science degree years ago.

However, there are new developments in the field.

LUH offers a MICRO-DEGREE programme of e.g. 15 CP in this field.



Receive an additional MICRO-DEGREE on new developments in the field.  
Or participants are free to complete only one or two courses and are satisfied with a confirmation.

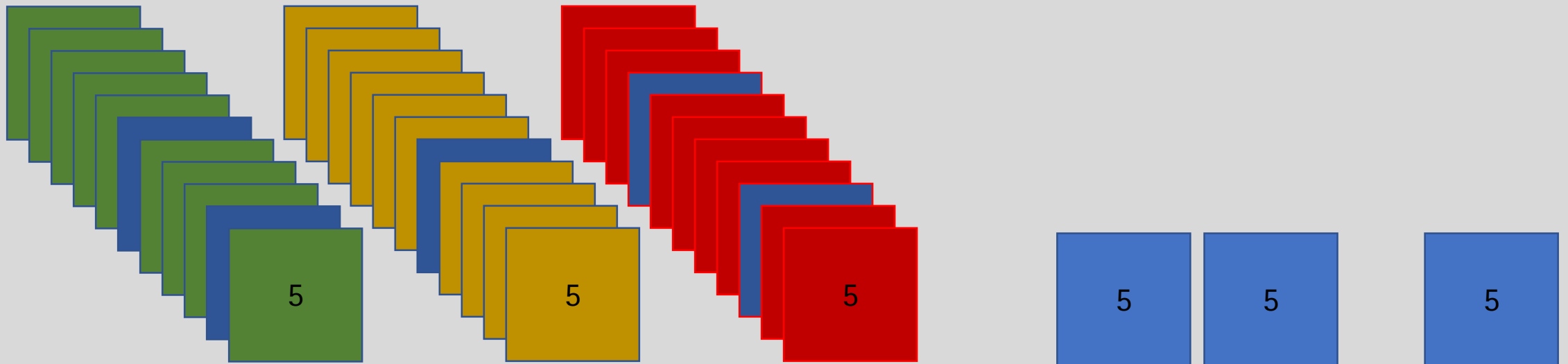
## = TRADITIONAL CONCEPT OF FURTHER EDUCATION:

Define a micro-degree programme for professionals practitioners that builds on the university's courses and reflects the latest developments,

e.g. a micro-degree programme developed by ZEW with one of LUH's institutes or research centres in sectors with a high need for transformation.

# ANOTHER SIMPLE WAY TO BUILD MICRO DEGREE PROGRAMMES

There are three study programmes at LUH.  
They share three important subjects, but only one or two of the three subjects appear in each study programme.



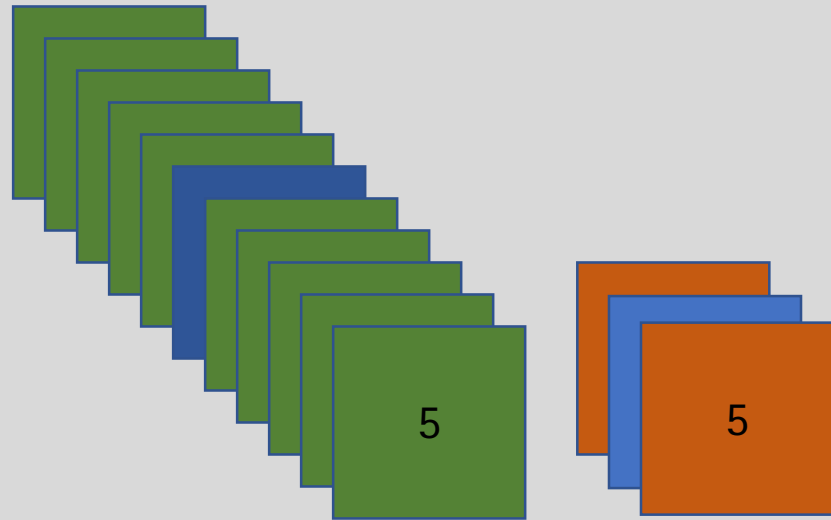
Why not develop a micro-degree programme of 10 CP that makes up for each missing part of the topic?  
The micro-degree could be acquired as additional qualification during the study or afterwards; it could also be supplemented to 15 CP for people who might find all three parts of the topic useful.

## = MODERN POLYVALENT AND FLEXIBLE CONCEPT OF FURTHER EDUCATION:

Define a micro-degree programme for students as well as for professional practitioners that supplements the university's courses sensibly and reflects the latest developments; this model can be used by all faculties of LUH.

# A SOMEWHAT MORE COMPLEX WAY TO BUILD MICRO DEGREE PROGRAMMES

There is a study programme including some special subjects.

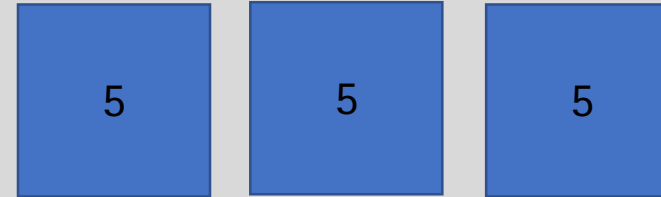


Compulsory modules

elective modules

Receive an Bachelor of Science degree.

Some more of these subjects would be interesting for the professional practise or can form additional qualifications in demand fields in the labour market.



Receive an additional MICRO-DEGREE of 15 CP for a particularly important subject.



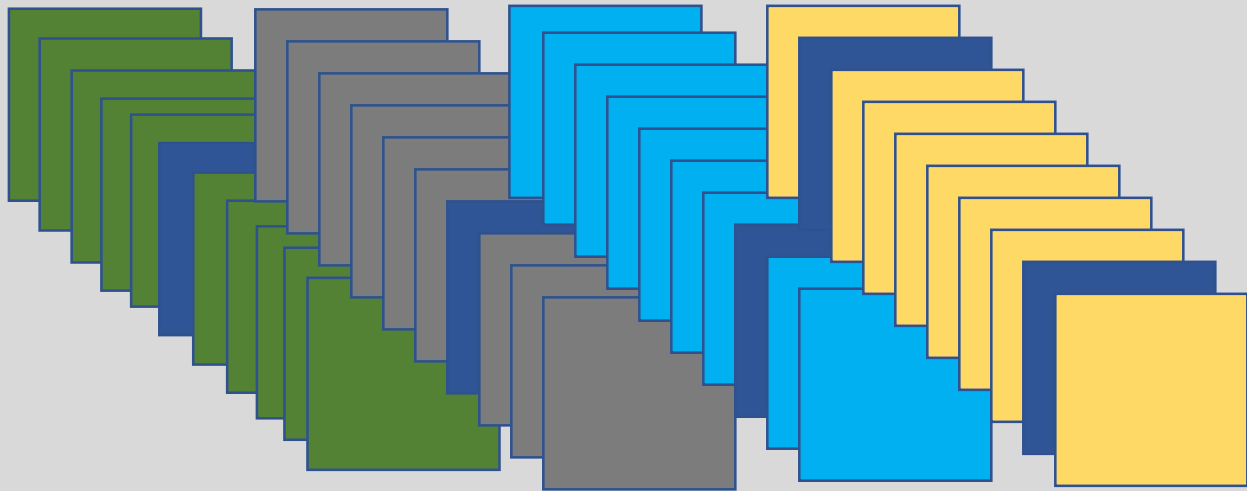
## = FORWARD-LOOKING POLYVALENT AND FLEXIBLE CONCEPT OF FURTHER EDUCATION:

Define a micro-degree programme for students as well as for professional practitioners that is based on university's courses and supplement them with additional qualification, e.g. a micro-degree programme on solar energy for LUH's interdisciplinary Leibniz energy 2050 research centre.

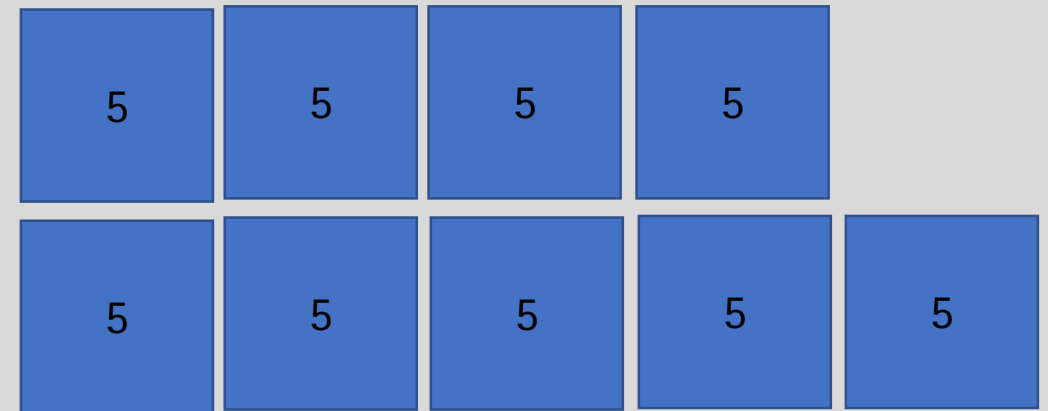
# A COMPLEX BUT HIGHLY EFFICIENT WAY TO BUILD MICRO DEGREE PROGRAMMES

There are several study programmes of several faculties including some special subjects of AI.

Some more of these subjects would be interesting for the professional practise.



Receive a Bachelor of Science degree.



Receive an additional MICRO-DEGREE of 20 or 25 CP for the particularly important subject.

The certificate contains information on  
--- sub-areas that were completed in the degree programme and on  
--- sub-areas that constitute the degree as an additional qualification.

## = TREND-SETTING AND HIGHLY FLEXIBLE CONCEPT OF FURTHER EDUCATION

Define several interconnected transdisciplinary micro-degree programmes for students of several faculties as well as for professionals practitioners that are both part of several university's courses and part of additional qualifications.

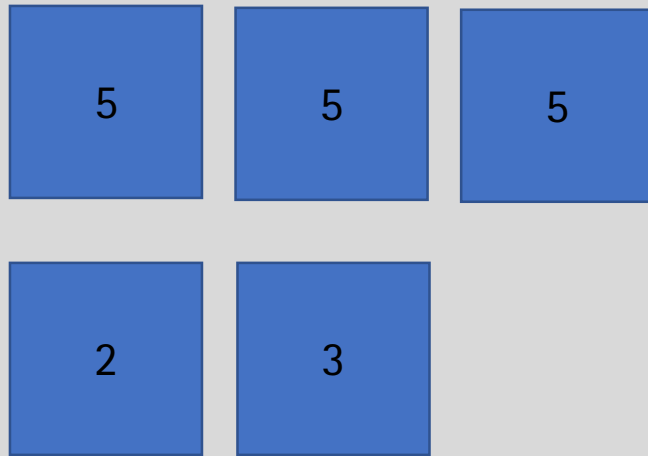
e.g. micro-degree programmes on AI for LUH's transdisciplinary Leibniz AI Academy.

The system of micro-credentials and micro-degree programmes on AI are

- transparently constructed
- quality assured
- clearly documented
- certainly creditable.

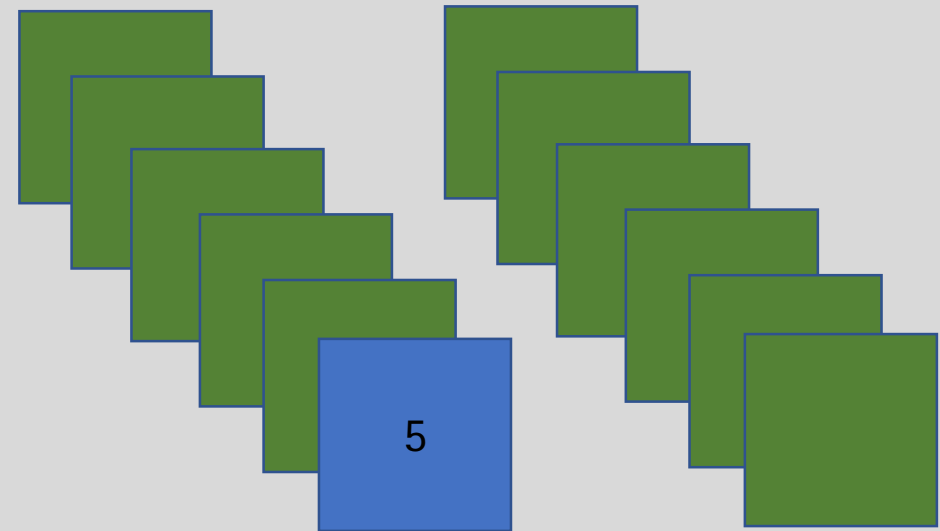
# A SYSTEMATIC WAY TO USE MICRO DEGREE PROGRAMMES WINNING TALENTED (FOREIGN) STUDENTS

There is a Master's study programme in a highly needed field of research.



Receive a MICRO-Credential of 5 CP or a MICRO-DEGREE of 10 or 15 CP to fulfil the admission requirements.

MICRO-CREDENTIALS of 2 or 3 CP can also be credited to Master's degree programmes.



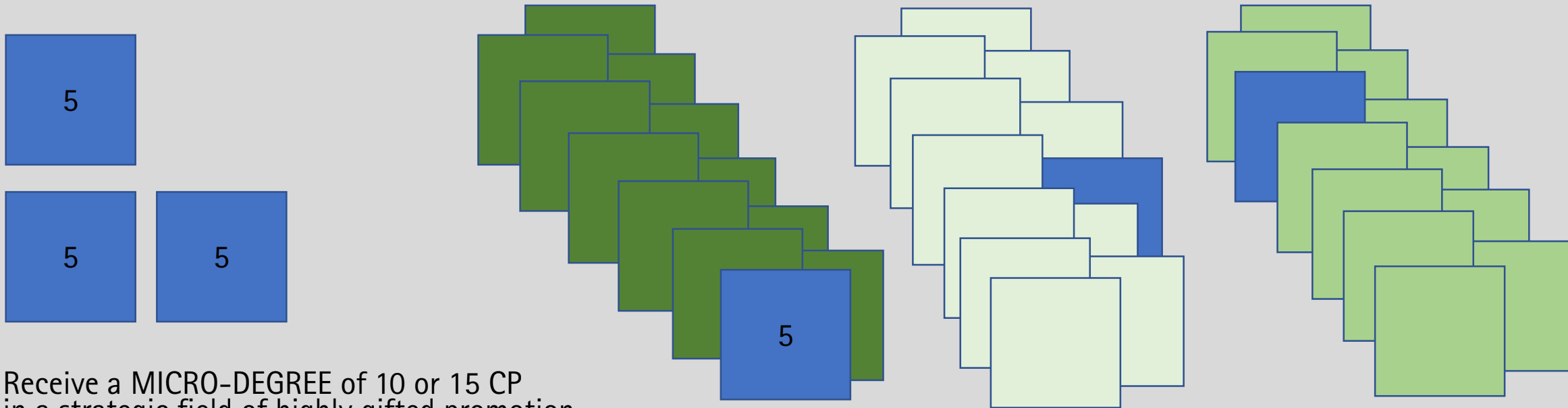
## = FORWARD-LOOKING FLEXIBLE CONCEPT OF FURTHER EDUCATION AS PART OF A RECRUITMENT STRATEGY

Define micro-credentials or a micro-degree programme for students to fulfil missing admission requirements. Modules from Master's programmes can also be offered as micro-credentials with the intention of attracting talented students to the university's programmes; these micro-credentials can then also be credited to the Master's programme.

In addition, these micro-credentials or a micro-degree programme can also be used as further education for professional practitioners.

# A STRATEGIC WAY TO USE MICRO DEGREE POWER PROGRAMMES PROMOTING HIGHLY TALENTED STUDENTS

There are three Master's study programmes at three cooperating international universities. The very best of the master's students from the three universities can apply for a micro degree power programme in a highly specialised field of their master's programme, which they complete together.



Receive a MICRO-DEGREE of 10 or 15 CP in a strategic field of highly gifted promotion

MICRO-CREDENTIALS of 5 CP each can also be credited to Master's degree programmes.

# = HIGHLY GIFTED PROGRAMME FOR A SPECIFIC AND INTERNATIONALLY COMPATIBLE HIGHER QUALIFICATION ALREADY DURING THE MASTER'S DEGREE PROGRAMME.

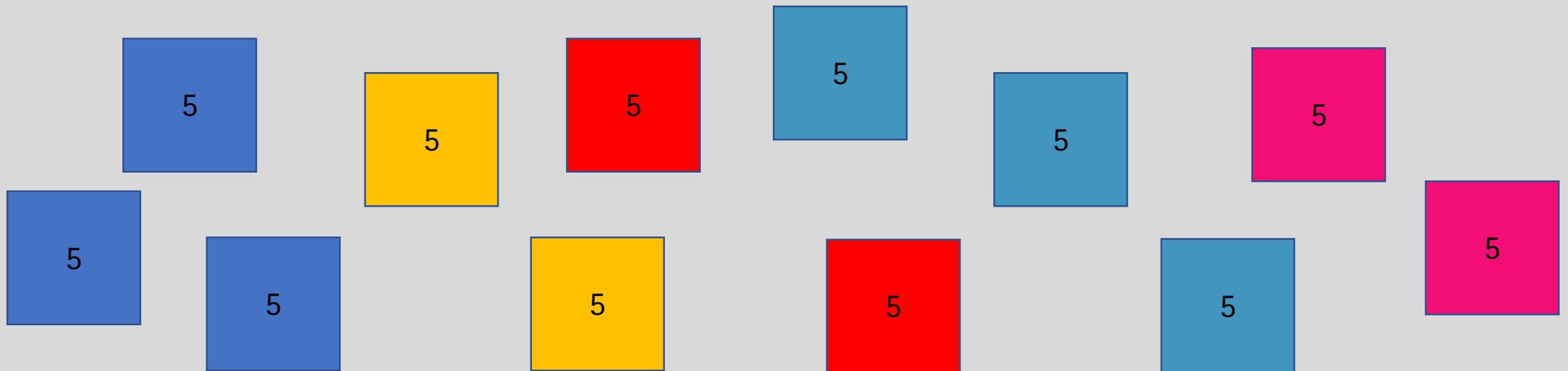
Define a micro-degree power programme for the very best master's students of three cooperating international universities and train them together in order to form very specific competencies. In addition, a micro-degree power programme can also be used as further education for highly qualified scientists in the industry who want to update their competences.

# A CLEVER WAY TO FORM A MASTER'S PROGRAMME FROM MICRO CREDENTIALS OF SEVERAL INTERNATIONAL UNIVERSITIES - A VISION



There are several international universities working together. Each of them has excellent areas of teaching and research that can be complemented by colleagues from the other universities. Why not develop a joint Master's programme, which is based on micro-credentials of several universities and which, in combination, leads to a Master's degree, for example in sustainable engineering or in AI for health or in renewable energies?

Take three MICRO-CREDENTIALS from LUH, two from LUT Lappeenranta, two from BUT Brno, three from TU Wien and two from Universidad Madrid.



Receive an internationally joint MASTER-DEGREE of 60 CP composed of 12 micro-credentials 5 CP each, according to a model negotiated among the universities.



## = CLEVER AND FORWARD-LOOKING FLEXIBLE CONCEPT OF USING MICRO DEGREES TO FORM MASTER'S PROGRAMMES

Define several MICRO-DEGREE PROGRAMMES of 10 or 15 CP at several cooperating European universities. All universities cooperate closely in the development of the programmes and ensure that students who take all the joint MICRO-DEGREE PROGRAMMES also receive a Master's degree in addition to the 60 CP.

This Master's degree can only be awarded jointly by all universities and is a European degree in the best sense of the word.

THANK YOU.