CoTEDi

Computational Thinking Education for Diversity and Inclusion

Playful Computational Thinking with Robots

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Erasmus+ movetia Austausch und Mobilität Echanges et mobilité Scambi e mobilità Exchange and mobility

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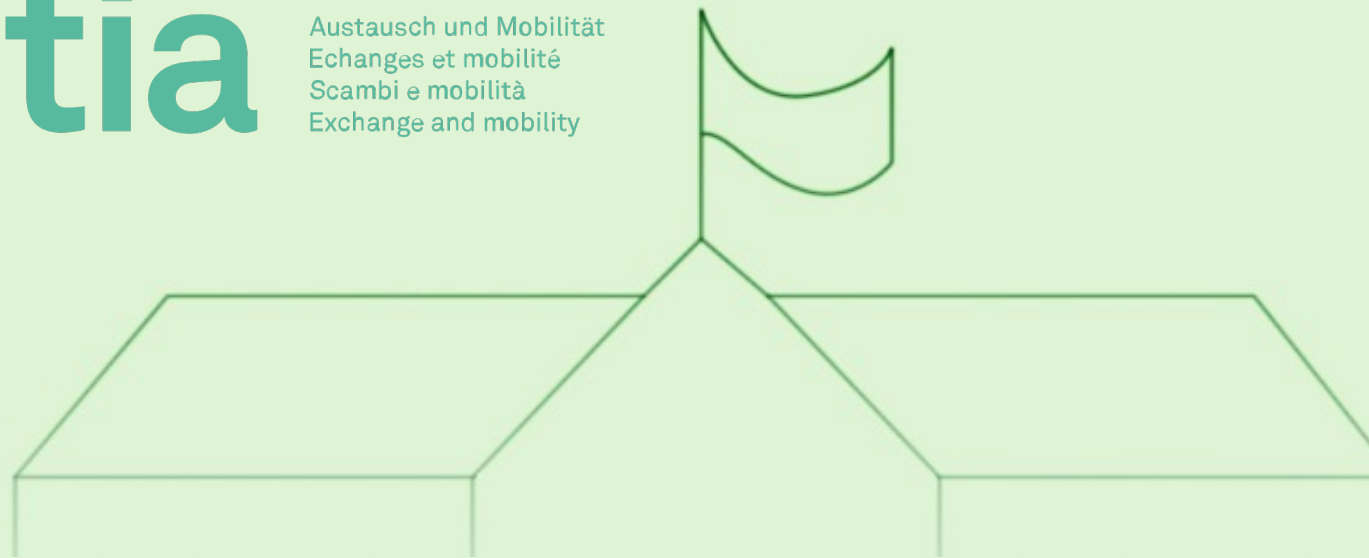

16 Institutions from Six Countries

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Open Universiteit

Universidad Rey Juan Carlos

CGL Cologne Game Lab

Institute for Game Development & Research

Technology Arts Sciences TH Köln

Linnæus University

TREETREE2

zhaw Life Sciences and Facility Management

MIK & PIW GROEP

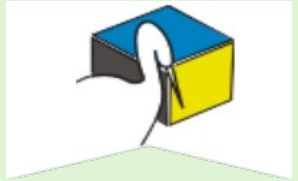
Sociaal werk & Kinderopvang

STICHTING SWALM & ROER

voor onderwijs en opvoeding

Agrupamento de Escolas de Nisa

atlântico COLÉGIO



Agrupamento de Escolas de Professor Armando de Lucena

Agrupamento de Escolas Fornos de Algodres

<Kod centrum>

Agrupamento Escolas de Vila Verde

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- Computational Thinking
- Immersive-playful environment
- Diversity and Inclusion
- Early formal education

  pre-schools – primary schools (~ age 5 ~ 9)

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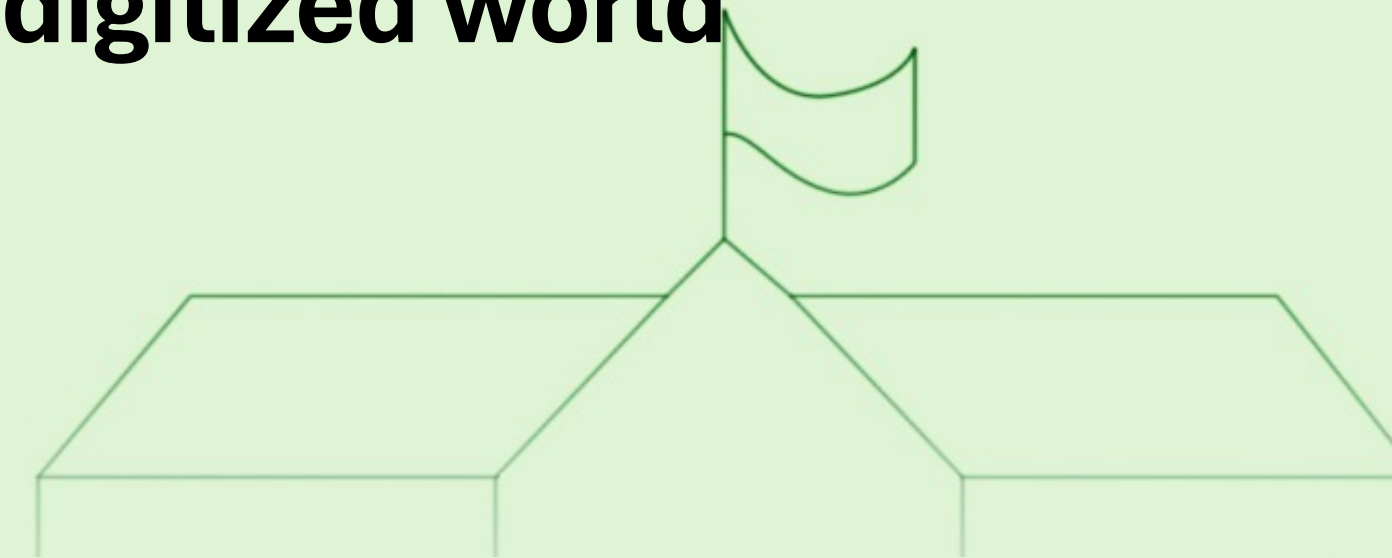
Computational thinking

is the tool of *taking control*

in a highly digitized world

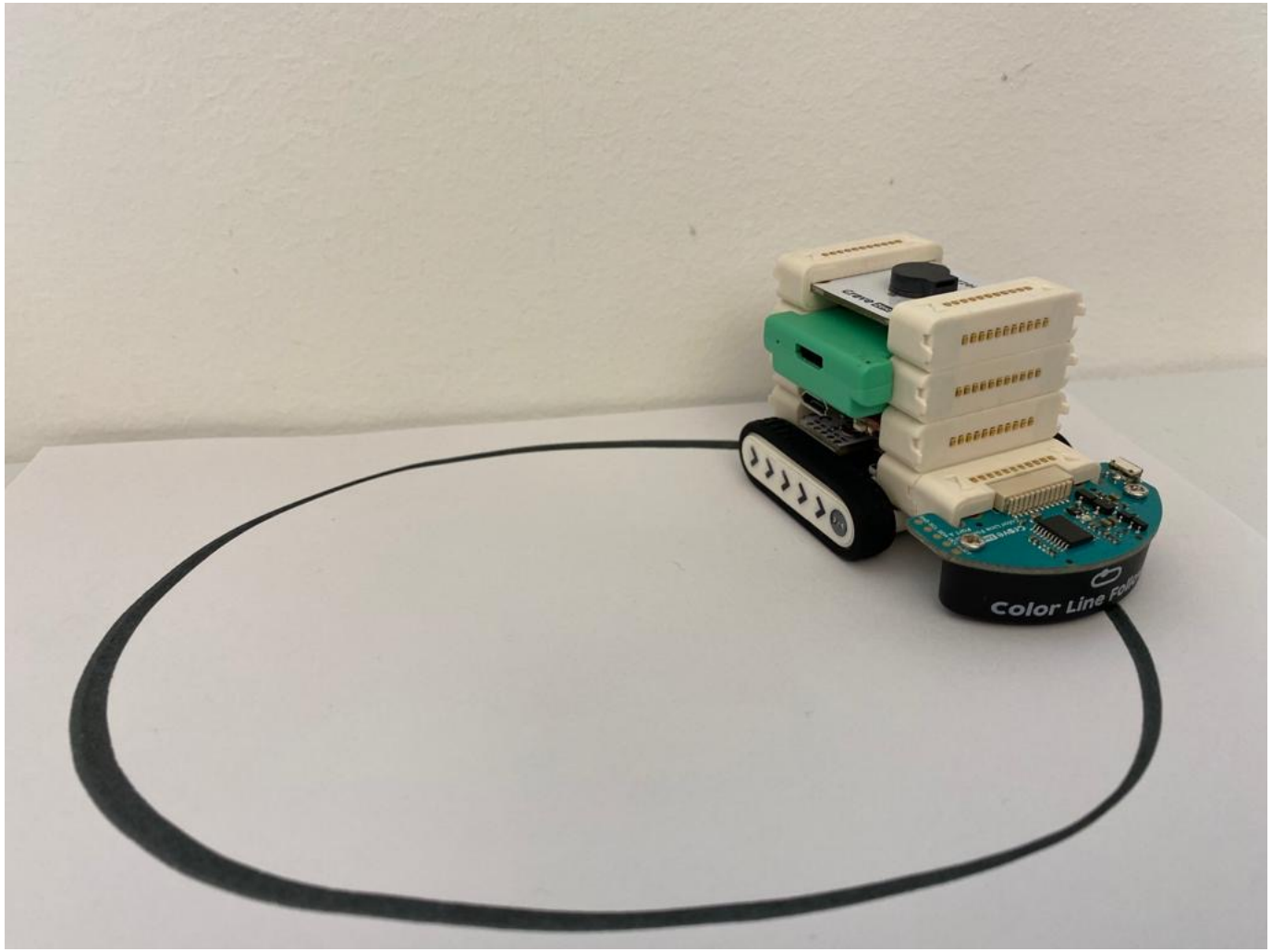


Computational Thinking

Programming

Why robots to teaching computational thinking?

- Tangible
- Observable
- Multi-modal



Challenges with robots

- Mechanics
- Eletronics
- Software

- Attention span
- Achievement time
- Conceptual complexity
- Motoric skills and abilities

Image: BeAndge

Playful and educational interactions

- Easy to build
- Continuous complexity (no-code ↔ ardunio style code)
- Conceptual flexibility (different learning objectives)
- Playfullness (experimentation and exploration)

Goal for the day

1. Learn about robot components
2. Build different robots
3. Learn about placing logic without computers
4. Collecting and sharing ideas of exercises

The Components

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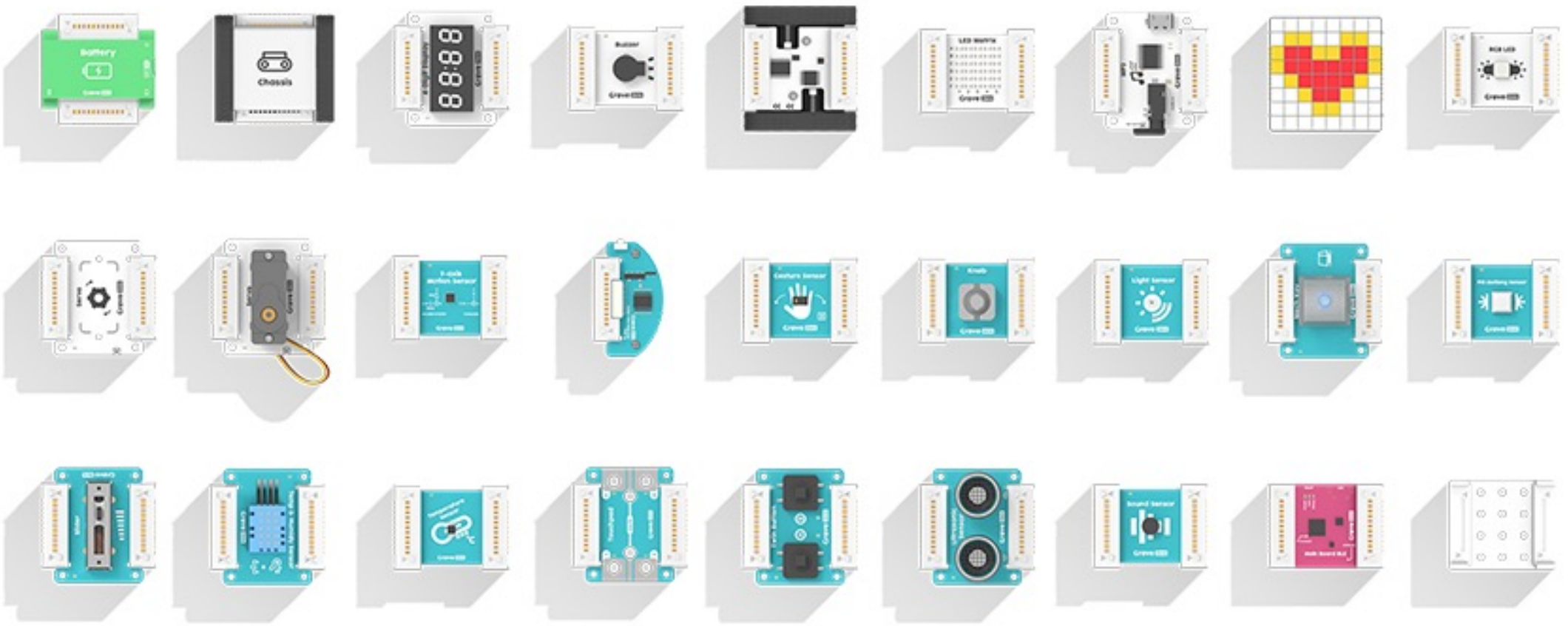

Collect and share experiences

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https://forms.office.com/e/9eBjSLgJwn

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Exercise 1

Sensing and Acting

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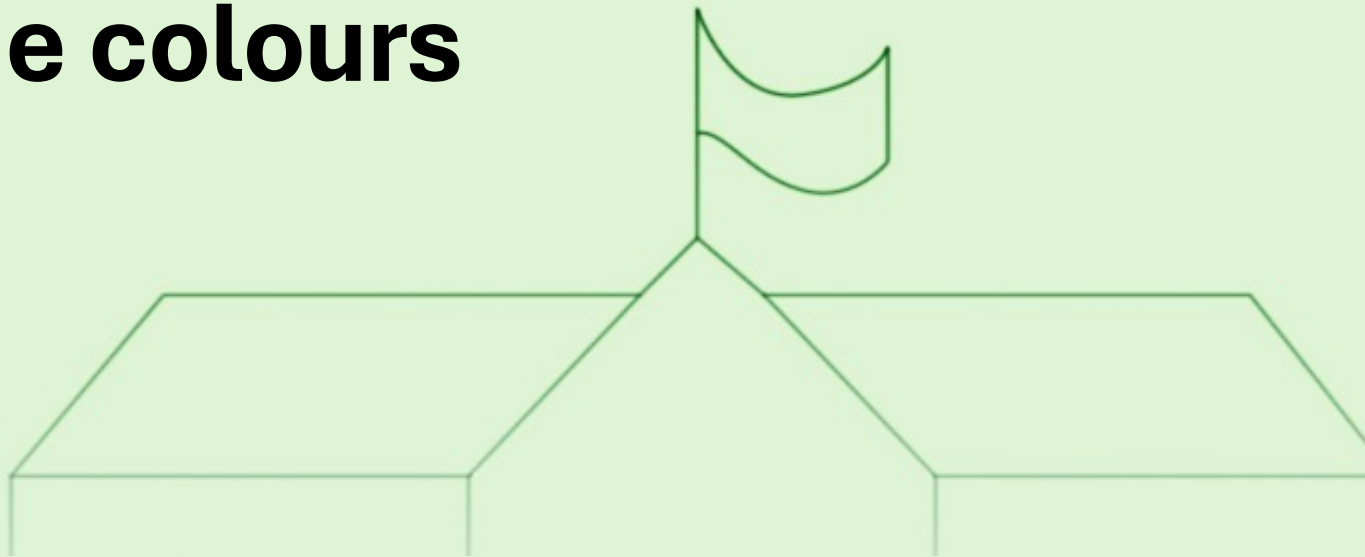
Exercise 2

Follow the line and the colours



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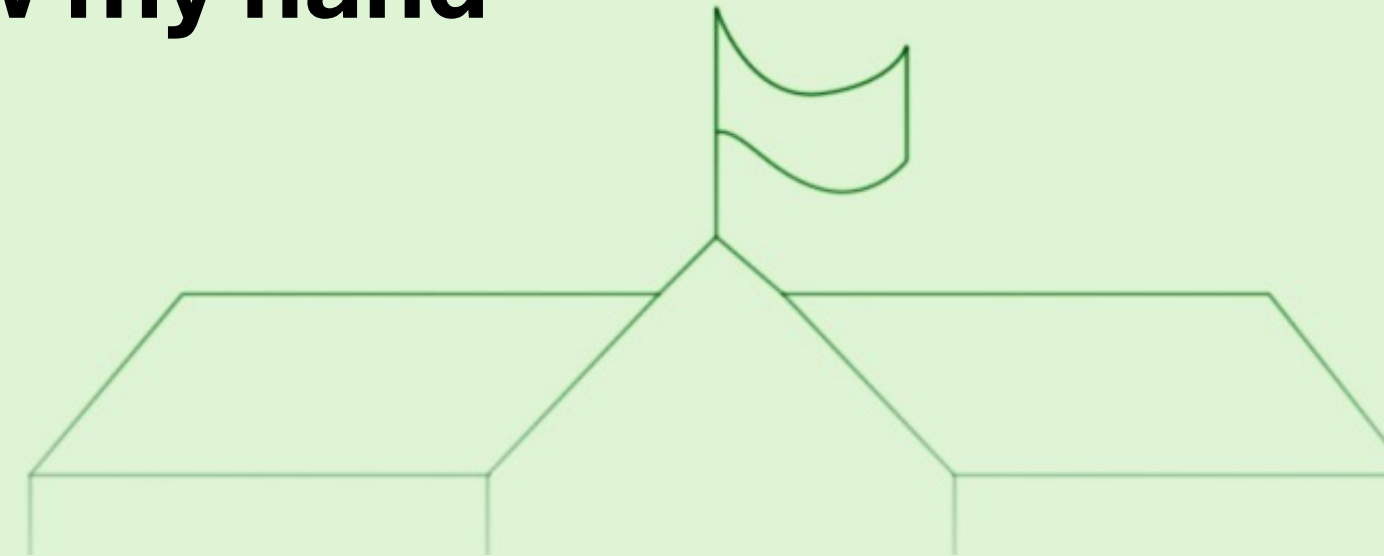
Exercise 3

Follow my hand



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Exercise 4

Work together