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software engineering in automotive
and mobility ecosystems

Hello Lisboa!

29.03.2023

SdV Education - Talent Pipeline & Open Innovation
@ 42 Wolfsburg

ECLIPSE FOUNDATION

SDV
Eclipse Software Defined Vehicle

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Agenda & Activation

- Study Program
- SdV Partnership

- Who is interested to explore to be a Fellow or Partner?
- What ideas do you have for Lab Space or Projects?
- What questions & feedback do you have for us?

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Software Engineering in Automotive and Mobility Ecosystems

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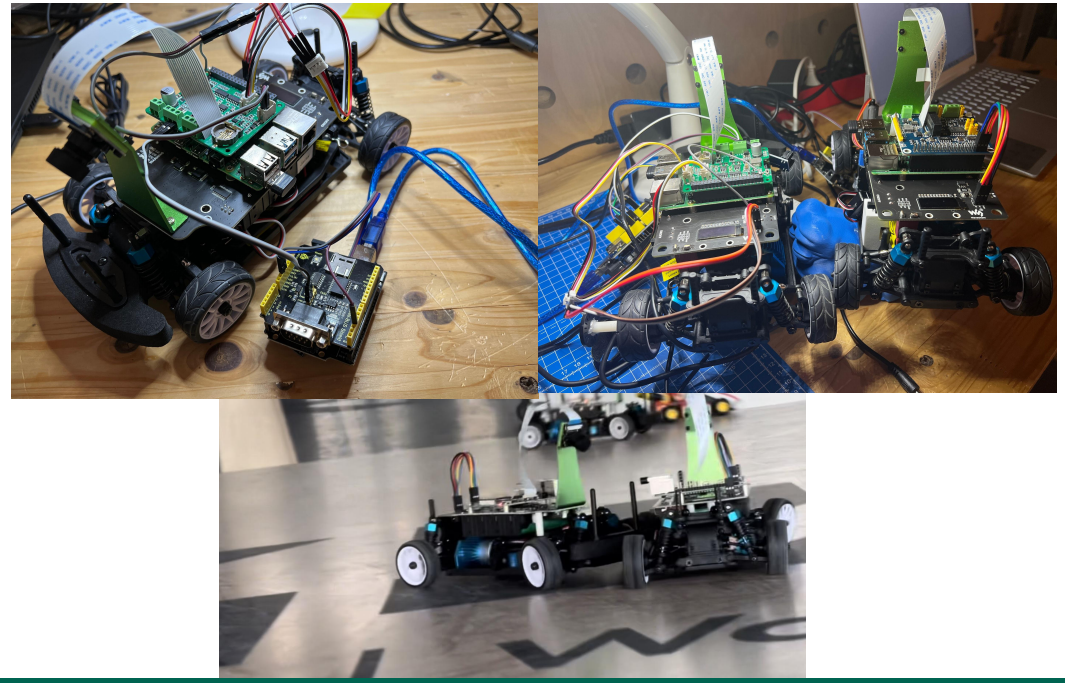
Overview

- Open Education curriculum and Open Innovation ecosystem.
- 100% hands-on project-based peer learning, providing practical skills and experience
- Designed for: Students with a bachelor in CS or related field & professionals who are looking to reskill or upskill
- Our Learning Objects are PiRacers



EMBEDDED SYSTEMS

AUTONOMOUS DRIVING

MOBILITY ECOSYSTEMS

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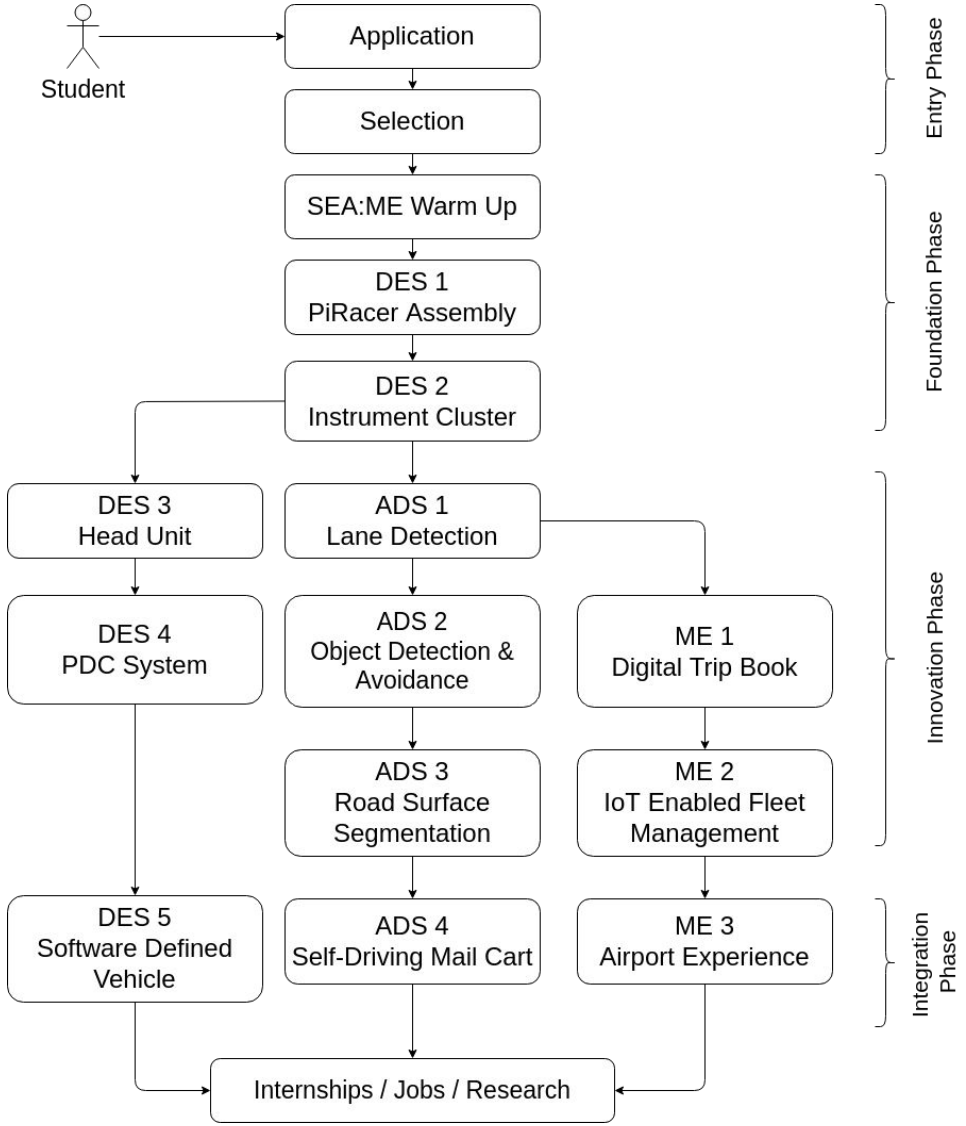
Structure

- 3 modul curriculum each spanning 4-6 months.
- designed to be flexible to tailor to learning interests and career goals.
- SEA:ME Learning Management System implemented on GitHub



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Open Innovation - Community of Practice

- Knowledge sharing & networking of experts, fellows, and pro bonos from industry & academia.
    - Tech talks - SEA:ME Speakers series
    - Workshops - Knowledge sharing sessions by fellow experts
- Co-creation of real-world industry projects as study content
- Open innovation, research activities
- Mentoring for students
- Events organized by the community - Hackathons, Fellows gathering.

- **Flexible commitment - 2 h/month to 8 h/week**

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Core contributing fellows

- Embedded Systems Module
  - Torsten Wylegala (VW Academy)
  - Dr. Oliver Hartkopp (VW)
  - Prof. Volker von Holt (University of Ostfalia)
- Autonomous Driving Module
  - Dr. Silviu Homoceanu (Deltia)
  - Dr. Sascha Saralajew (NEC Labs)
  - David Wachter (MicroNova)
  - Guido Birkenfeld (msg DAVID)
- Mobility Ecosystems
  - Mario Ortegon (MSFT)
  - Fabian Toepel (MSFT)
  - Yannick Weißflog (IAV)

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#NextGenerationEducation

Microsoft

CARIAD

Google

CGI

T Systems

Red Hat

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Partner Benefits

- Attract & win top talent for your organization
- Promote adoption of your SdV projects through training community
- Use OERs in your organization and with clients
- Allow peers and clients a hands-on experience with your SdV tech in our Lab Space
- Develop relationships with different stakeholder experts (trusted relationships, planning, biz)

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About us

- Max Senges (CEO, 42 Wolfsburg/Berlin)
- Pratik Prajapati (Curriculum Lead)
- Tim Kremser (Project Manager)
- Joseph Sühr (Partnership Manager)
- Aleksandr Artemov (Learning Facilitator)

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Outlook! - SEA:ME Lab Space = a SdV Home Base

- 1:10 scale road model for hands-on automotive software engineering projects
- Workshop area for R&D work on real cars, 1:2 scale cars, go-karts, etc.
- Tech area with 30 workstations equipped with necessary hardware
- Outdoor mobility solution hub space for experimenting with new ideas and technologies
- Social gathering spaces for networking, collaboration, and community-building, indoor event spaces, meeting rooms, etc.
- An inventory room for storing and organizing project materials, tools, and equipment.

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Partnership Outlook - VWGK & Kookmin University(KMU)

- 10 students from KMU participate in SEA:ME every year from 2023 to 2025.
- KMU leading korean Future Car University Research Consortium
- Planning SEA:ME Rollout in KR starting in 2023
- Outlook:
    - Medium scale Prototyping (autonomous driving + driving simulator program)
    - Full scale car projects - self-driving Käfer (electrified & autonomous driving VW Beetle)

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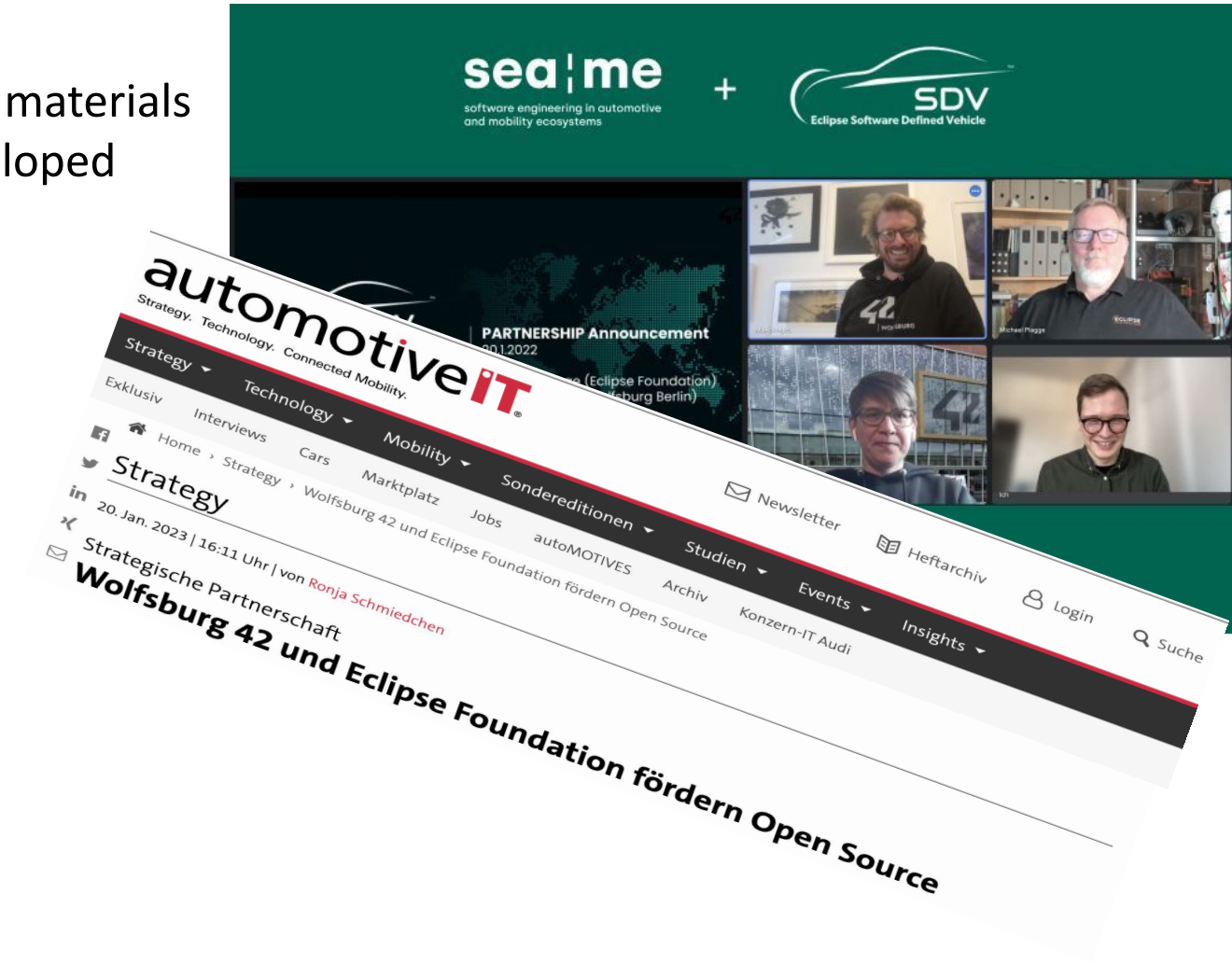
Partnership Goals - SdV at SEA:ME

- Open source projects SdV → peer-training materials
- Sharing knowledge on tools used and developed
- Joint grant proposals/research
- Joint events
- Sharing internship / job opportunities



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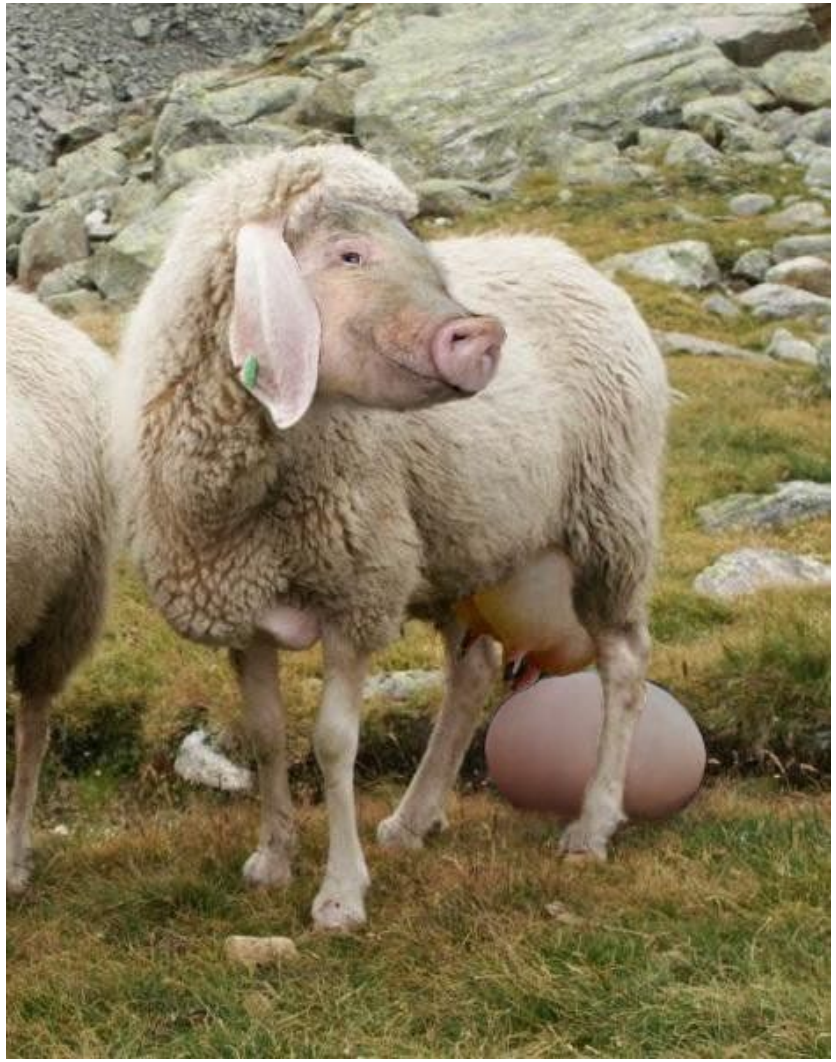
Fellow Conditions & Practices - SdV at SEA:ME

- **Time Investment**: min 1-2h per month for peer reviews or mentoring meetings → some Fellows make it their 20% project and collaborate a day per week
- **Entrepreneurial volunteer role** but you can access small grants and bootstrap proposals that get funded by partners.

Fellow Activities

- Co-create peer-learning projects (for your SdV project)
- Record how-to videos
- Distill knowledge base
- Facilitate community of interest (across SdV & SEA:ME)
- Evolve documentation
- Bring OERs to company trainings (spread with partners)



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Partnership Outlook - SdV at SEA:ME

- Current Partners
  - Microsoft
  - CARIAD
  - MBition
  - T-Systems
  - Bosch
  - Capgemini
  - Digiteq Automotive
  - MicroNova
  - msg DAVID

- Everybody is welcome - who is interested?

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Join us tomorrow at 14:00 for Open Collaboration 42 Wolfsburg workshop

We welcome you to

- Propose themes for the session tomorrow!

- Examples:
  - peer-learning **Leda + Velocitas**: A simple dashboard that displays real-time data from sensors on the vehicle, such as speed, temperature, and battery level.
  - peer-learning **ArchE + SommR**: A simple control system that communicates between different ECUs using the SomeIP protocol and is modeled using the ArchE tool.

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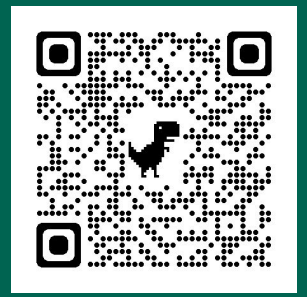
Thank you & Discussion.

Tim@42Wolfsburg.de, Pratik@42Wolfsburg.de, Max@42Wolfsburg.de

Make sure to follow our channels to stay up-to-date