

The associate degree or short cycle program in IoT

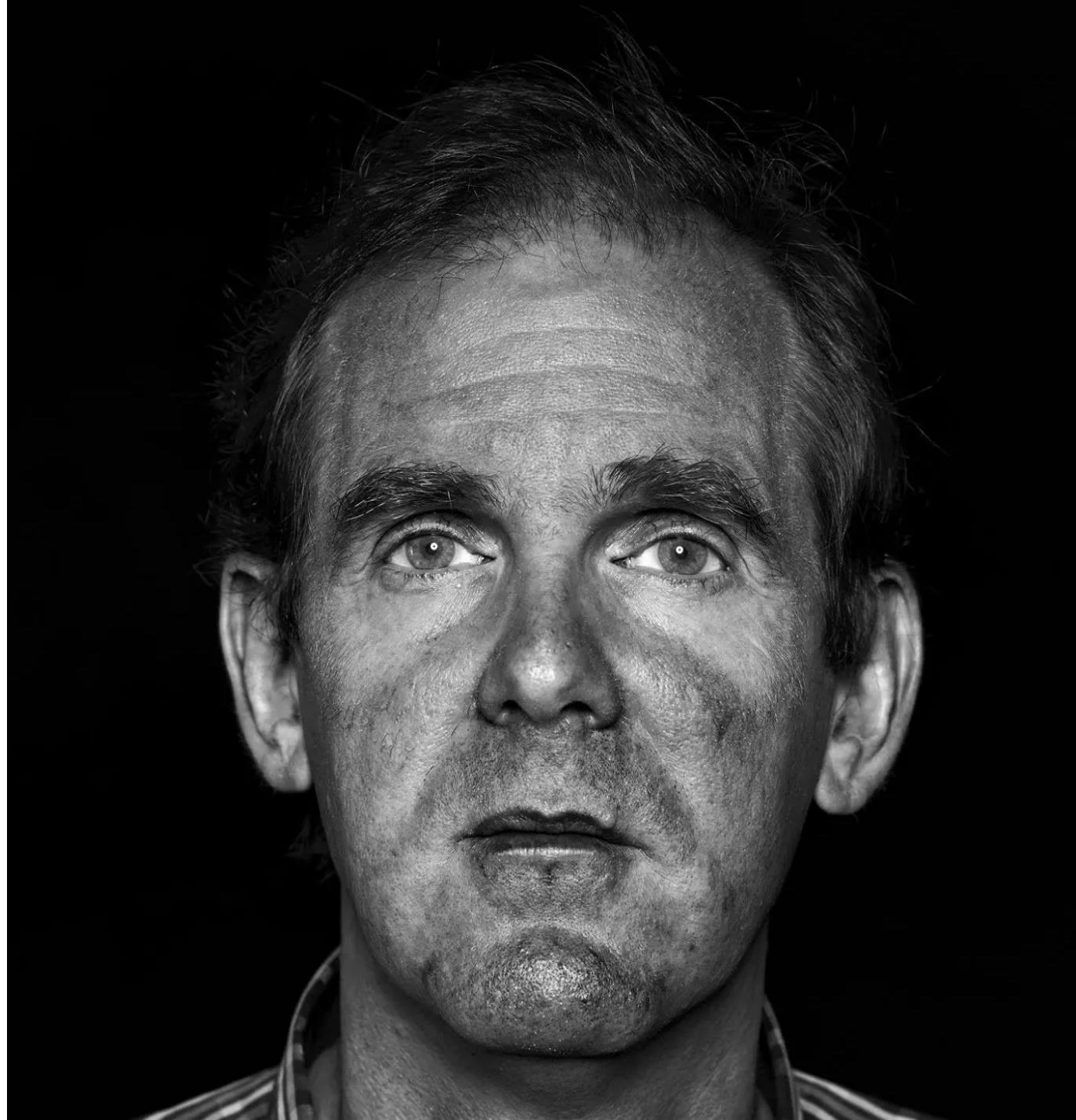
Hello!

Who am I?

- Maarten Van Lint – Thomas More, Belgium
- Expertise in electronic engineering (MSc)
- Coordinator workplace learning for IoT
- Teaching embedded systems / projects

Contact?

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- LinkedIn

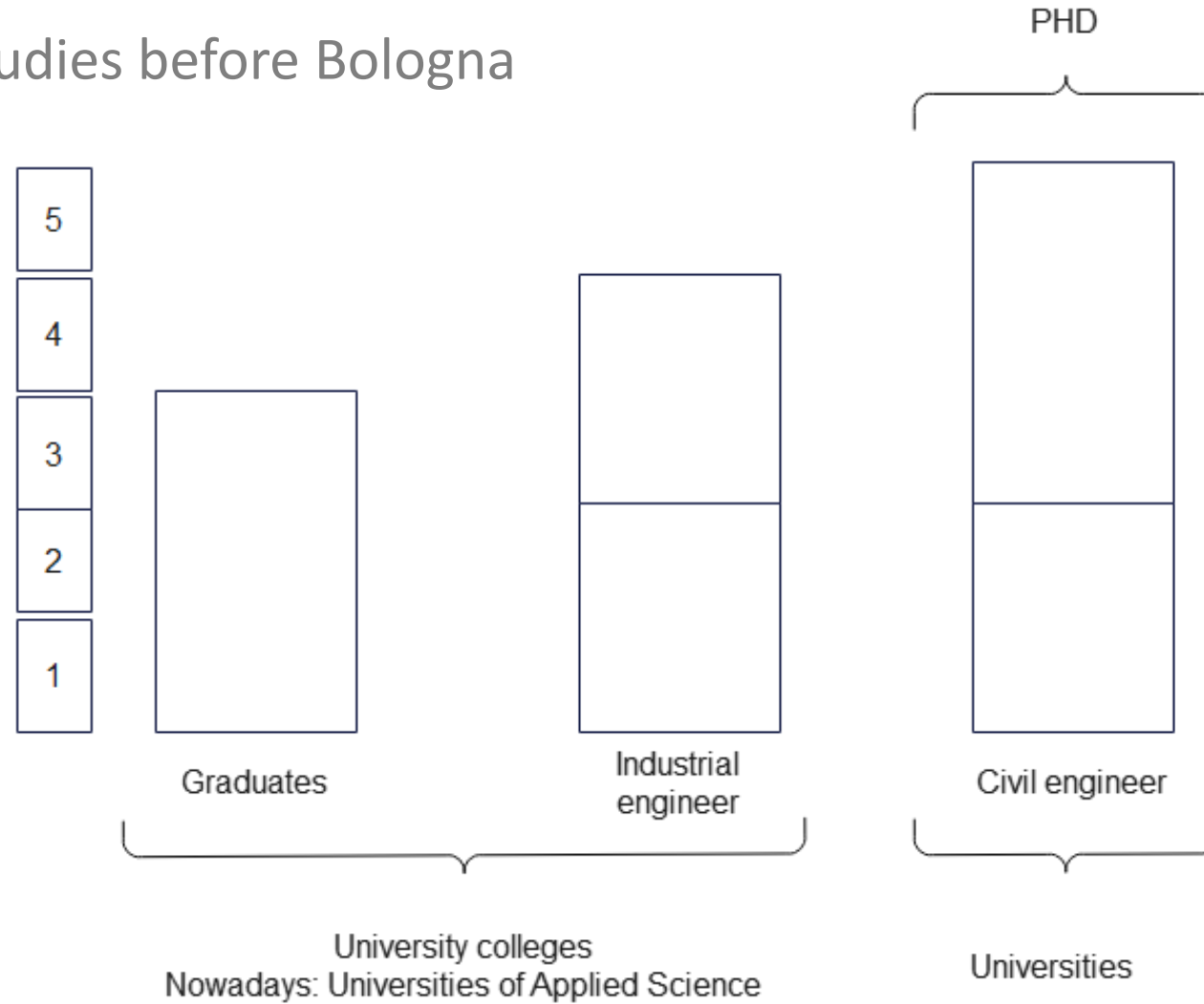


Content

- Historical context:
 - Before and after Bologna
 - Level 5 or the short cycles
- Goals and requirements of the program
- Content
- Professional bachelor vs Associate degree

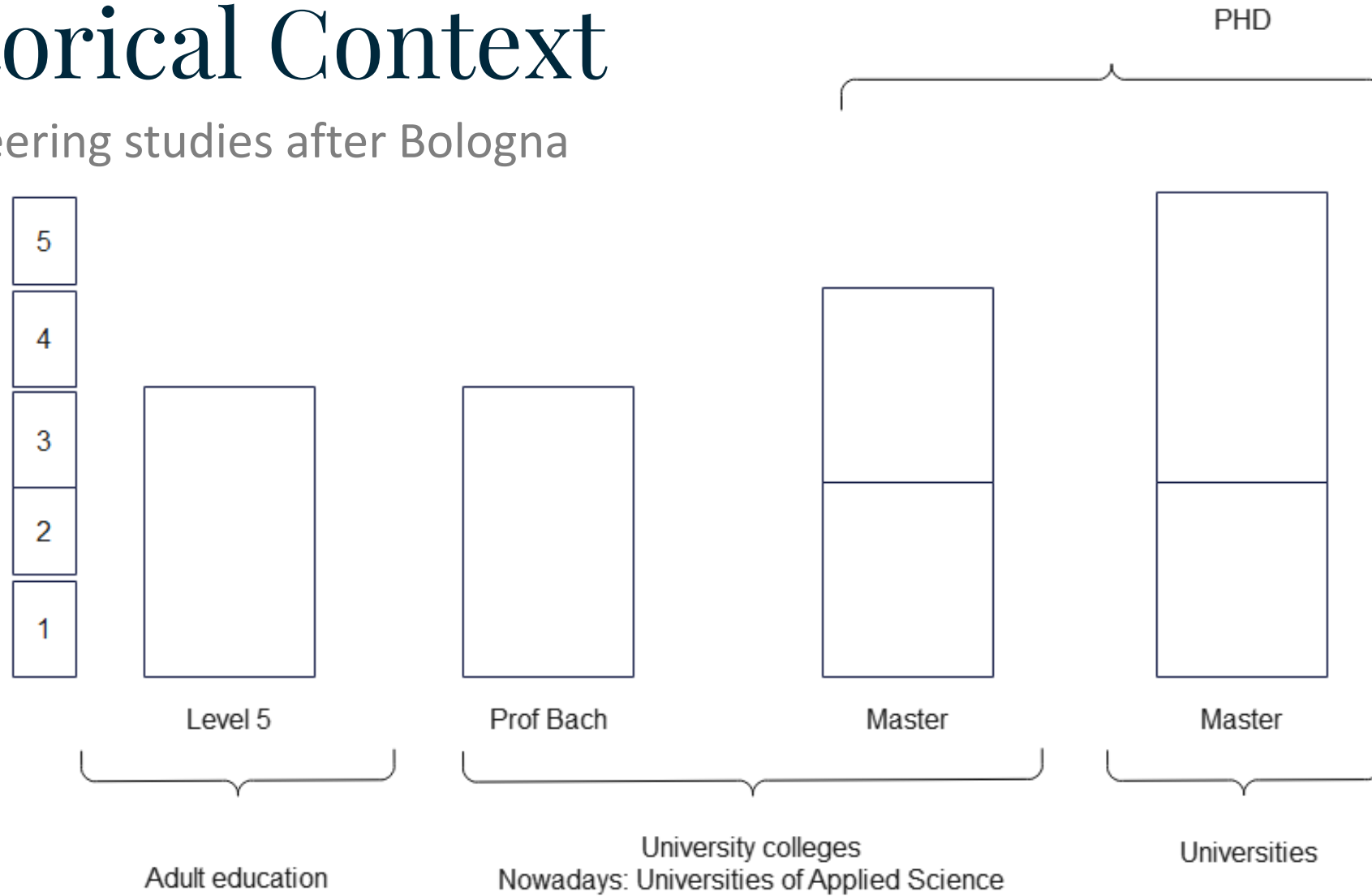
Historical Context

- Engineering studies before Bologna



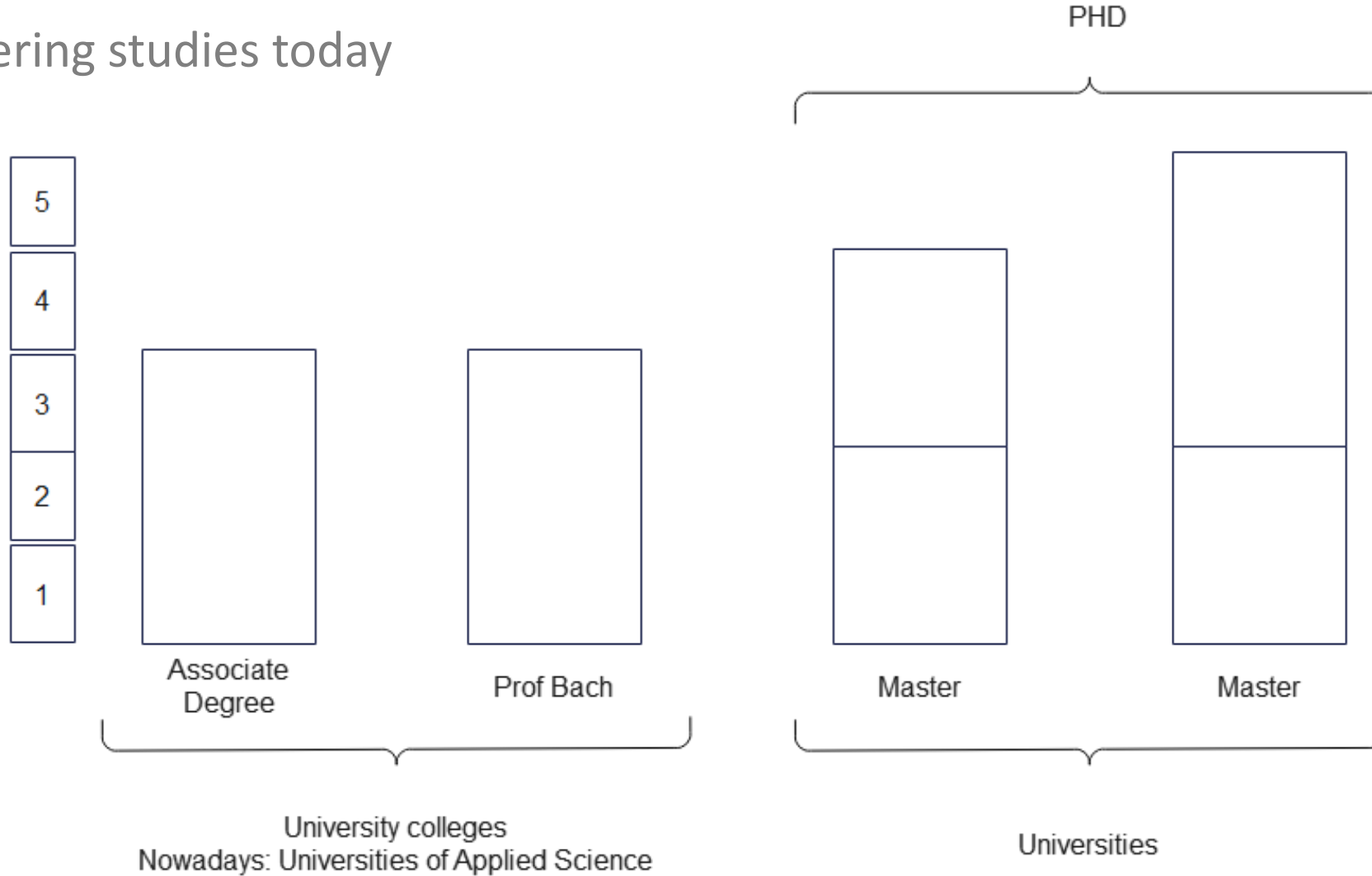
Historical Context

- Engineering studies after Bologna



Historical Context

- Engineering studies today

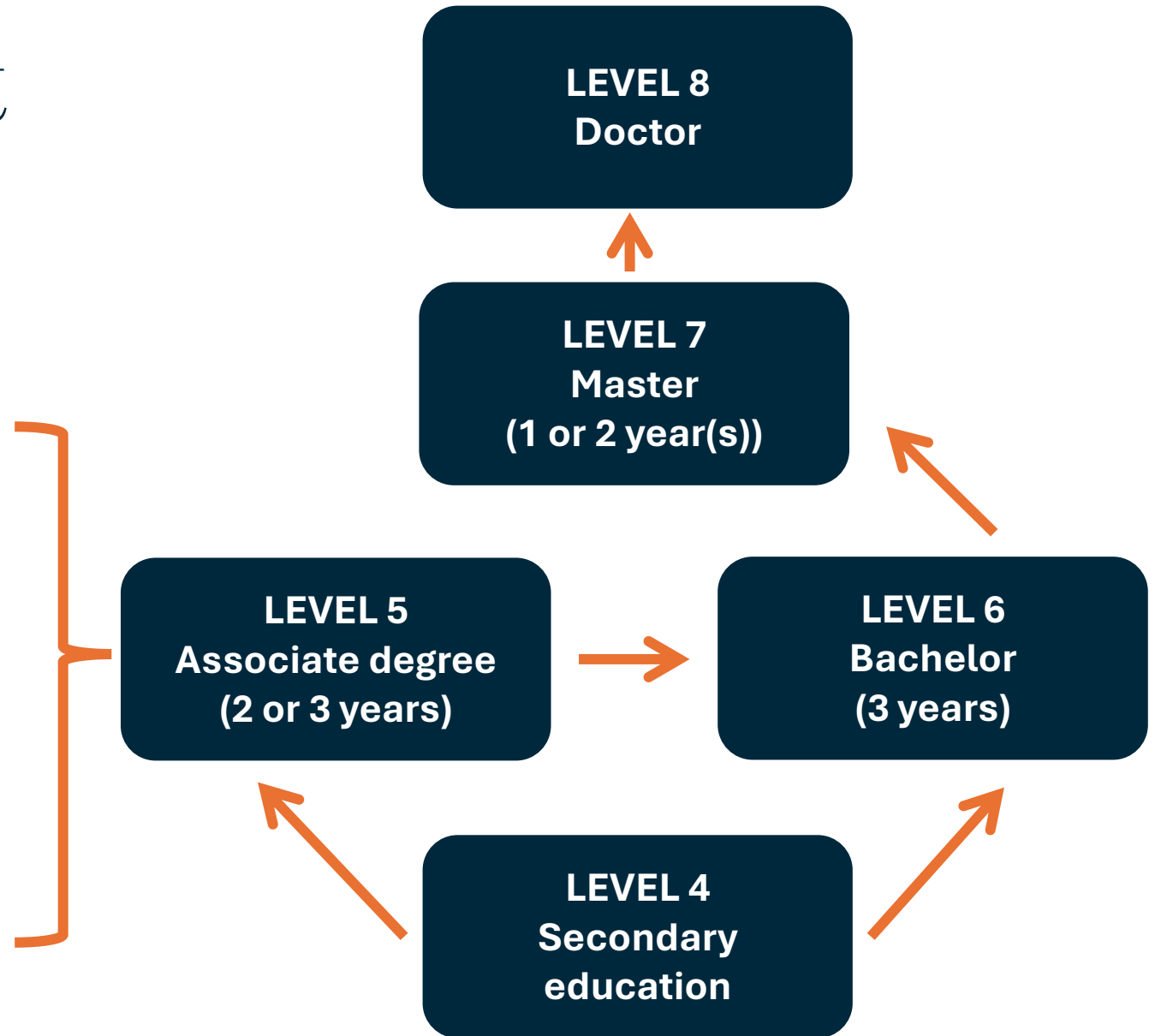


Historical Context

- Today from another perspective

Associate degrees in IT

- Programming
- System and Network Management
- Internet of Things



Goals and requirements of the program

- Associate degree (short cycle)
 - 2 years
 - 1/3th workplace learning
 - Learning in/about workplaces
 - Government-imposed (workplace learning ≠ internship)
 - Should be very practical
 - “executing jobs”
 - Critical opinion: is a higher education level required to just execute?

Content

- Separate 'learning lines'
 - 1 supporting technical learning line
 - 2 specializing technical learning lines
 - 1 learning line workplace learning & soft skills

First iteration

Semester 01 (30 sp)	Semester02 (30 sp)	Semester 03 (30 sp)	Semester 04 (30 sp)	Engels?
<ul style="list-style-type: none"> Embedded Software (3 sp) Embedded Linux (3 sp) Embedded Devices (3 sp) 	<ul style="list-style-type: none"> Embedded Devices Adv (3 sp) 	<ul style="list-style-type: none"> Embedded Security (.3 sp) Cloud IoT (3 sp) Development Project (6sp) 		<ul style="list-style-type: none"> Embedded Technologies (24 sp)
<ul style="list-style-type: none"> Introduction to Sensing (3sp) 	<ul style="list-style-type: none"> Smart Monitoring (3sp) IoT Essentials (3sp) 	<ul style="list-style-type: none"> Smart Homes (6 sp) Wireless IoT (3sp) Home Automation Project (6 sp) 		<ul style="list-style-type: none"> IoT wireless/ automation/sensing (24 sp)
<ul style="list-style-type: none"> Applicatie software (3 sp) Embedded interfacing (6 sp) Introduction to Networks (3sp) 	<ul style="list-style-type: none"> Embedded interfacing (6 sp) Elektriciteit (6 sp) 			<ul style="list-style-type: none"> Ondersteunend (24 sp)
<ul style="list-style-type: none"> Werkveldexploratie (combinatie pers. ontv. 1 en werkveldexpl) (4sp + 3 sp -> 3sp + 3sp) 	<ul style="list-style-type: none"> Projecten voor het werkveld 01 (6 sp) Pers.. Ontwikkeling 2 (3 sp) 	<ul style="list-style-type: none"> Prof. Ontwikkeling (3 sp) 	<ul style="list-style-type: none"> Startende Professional (30 sp) 	<ul style="list-style-type: none"> Professional Skills (48 sp)

First iteration

- Soft skills
 - Students only apply soft skills where it is required
 - The separate courses
 - The parts in workplace learning where it is required
 - Insufficient integration of soft skills
- Too much courses of only 3 study points
 - 2 x 3 studypoints = 2 x 2 blocks (of 1.5 hours per block) lectures = 4 blocks lectures/labs
 - 6 studypoints = 3 blocks lectures/labs

Final program

Semester 01 (30 sp)	Semester02 (30 sp)	Semester 03 (30 sp)	Semester 04 (30 sp)	Engels?
<ul style="list-style-type: none"> Embedded Software (3 sp) Embedded Devices (3 sp) 	<ul style="list-style-type: none"> Embedded Devices Adv (3 sp) 	<ul style="list-style-type: none"> Embedded Security (.3 sp) Wireless IoT (3sp) 		<ul style="list-style-type: none"> Embedded Technologies (24 sp)
<ul style="list-style-type: none"> Embedded Linux (3 sp) Applicatie software (3 sp) 				
<ul style="list-style-type: none"> Embedded interfacing (3 sp) Introduction to Sensing (3sp) 	<ul style="list-style-type: none"> IoT Essentials Troubleshooting // circuit analyse(3sp) Smart Monitoring (3sp) 	<ul style="list-style-type: none"> Smart Homes (3 sp) Cloud IoT (3 sp) 		<ul style="list-style-type: none"> IoT wireless/ automation/sensing (24 sp)
<ul style="list-style-type: none"> Kennismakingsproject IoT(3 sp) Inleiding tot IoT Networks (3sp) 	<ul style="list-style-type: none"> Embedded interfacing 2 (6 sp) Elektriciteit (6 sp) 	<ul style="list-style-type: none"> Development Project // Blended IP (6sp) Verdiepend IoT Project (9 sp) 		<ul style="list-style-type: none"> Ondersteunend (24 sp)
<ul style="list-style-type: none"> IT-Professional 1 (4sp + 3 sp -> 3sp + 3sp) 	<ul style="list-style-type: none"> Projecten voor het werkveld 01 (6 sp) Pers.. Ontwikkeling 2 (3 sp) 	<ul style="list-style-type: none"> Startende Professional (30 sp) Prof. Ontwikkeling (3 sp) 		<ul style="list-style-type: none"> Professional Skills (48 sp)

Final program



Associate degree vs Professional bachelor

- Prof. bach.
 - Commonly known in Europe
 - T shape education:
 - broader knowledge as its specialization
- Associate degree
 - Not that known
 - Might be underestimated due to the short program
 - Very specialized (only soft skills & content about their specialization)

Thanks!



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