Ref. Ares(2024)9031415 - 17/12/2024

EXPANDI 4.0

Management and I4.0 Evangelist Training

Deliverable D4.1 (D7),

17.12.2024

This project has received funding from the European Union's Digital 2021 research and innovation program under grant agreement No 101083660 and co-financed by the Plán obnovy under grant agreement No. 1868/2023

Funded by the European Union

PLÁN OBNOVY

EDIH EXPANDI 4.0
Expanding Industry 4.0 in Slovakia

www.expandi40.sk

Slovenská inovačná a energetická agentúra	SIEA
SOVA Digital a.s.	SOVA
Soitron a.s.	SOITRON
Matador Industry a.s.	MATADOR
Národné centrum robotiky	NCR
Združenie Industry 4UM	I4UM

Annual Report and Financial Report

Work package	WP3
Task	T4.1-4.3
Document number	D4.1
Deliverable type	PU
Title	Management and I.4 Evangelist Training
Author(s) and Contributor(s)	Artur Bobovnický, Martin Morháč, Martin Lohnert, František Duchoň, Alžbeta Podobová,
Reviewer(s)	Artur Bobovnický
Location	MSTeams: WP3 EDIH_Deliverable_3_1_Supported SMEs and LA
Version	1.1
Status	Final
Dissemination Level	Public, ww.expandi4.0

Funded by the European Union and Plán obnovy. Views and opinions expressed are however those of the author(s) only and do not necessarily reflect those of the European Union or MIRRI SR. Neither the European Union nor the granting authorities can be held responsible for them.

30.11.2024

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EXECUTIVE SUMMARY

This deliverable provides an overview of the progress of service delivery through our European Digital Innovation Hub for supporting the expansion of the principles and tools of I4.0 and developing the relevant innovation ecosystem for I4.0

EDIH EXPANDI 4.0 is referred to below as EDIH EXPANDI.

The document is provides the outputs from the power BI as of Dec. 17, 2024t

The report aims to offer valuable insights into our project's progress.

INTRODUCTION

The European Digital Innovation Hubs (EDIHs) aim to prepare European society and economy for a leading role in sustainable technology development and the twin transition of digital and green progress. The overarching goal of EXPANDI 4.0 is to facilitate digital transition across all Slovak regions by supporting local small and medium enterprises (SMEs), small mid-caps and Public Sector Organizations (PSOs) in their digital transformation, including the consideration of their environmental impact. In a rapidly evolving global landscape, the competitiveness, internationalization and scaling are critical priorities for companies. EXPANDI 4.0 aims to provide the holistic set of the services that could accelerate digitalization and increase the competitiveness of SMEs on local and international markets and support t develop innovative ecosystem of I4.0 bringing together all stakeholders and networks.

After a project duration of 24 months (but actually on 18 months of full implementation, after the co-financing grant was concluded), this deliverable reports on the overall status the project.

Intended Audience

This deliverable is addressed to three main audiences: 1) the consortium members, 2) the commission services and the independent reviewers of the project and 3) the public interested in the work of the EDIHs. As a public deliverable, its content is intended to be made available to other parties via the project website.

Goal

This document aims to is to demonstrate how the services we provide contribute to the broader goals of the project and support EDIH's mission and vision.

OVERVIEW OF THE PROGRESS

Current development of the performance shows, that WP 4 served so far only 7 companies and 7 participants.

On the other hand, the training courses planned for the January – February 2025 has gained high level of interest and as of December 17 we have 63 participants registered. NaCeRo partner (National Center of Robotics) provides the service.

We have recorded a delay in delivering the trainings for management alongside all the training modules (self-standing modules), but we are accelerating the finalization of the new modules and we expect that by 1.Q 2025 it will be extended for additional 3 modules that are currently under development.

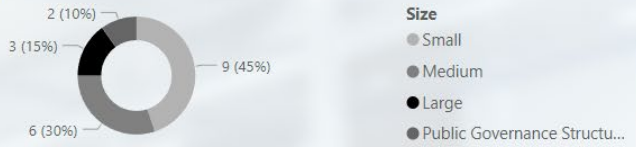
For more details see the power BI screen shot followed by description of the WP work performed and presentation of the WP 4, delivered during the mid-term report on Dec. 13, 2024 by prof. Duchoň..

EXPANDI 4.0

Companies Engaged	Services Delivered	pct. of Plan	Services TBD	Best Est. Completion
20	7	3%	63	30 %

Companies

podľa kategórie Size



Services Delivered

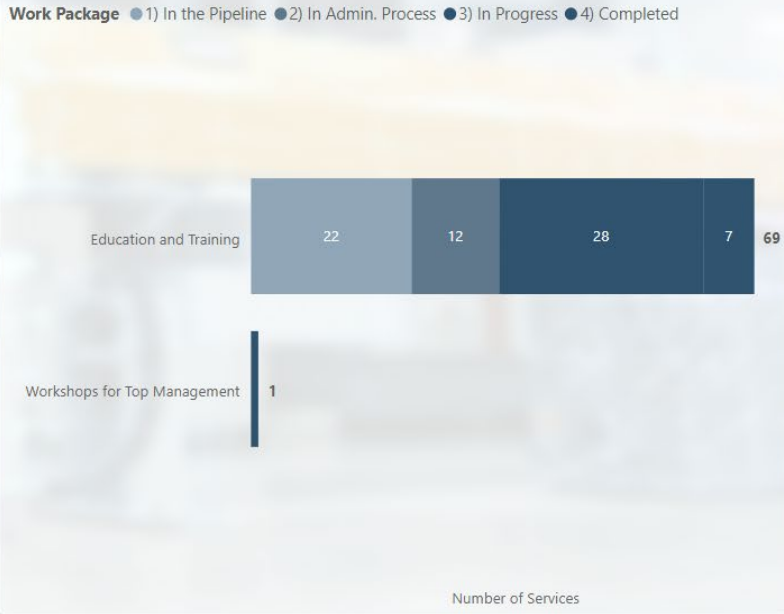
cumulative by completion date

Companies Engaged

by validation date

Services

by status and work package



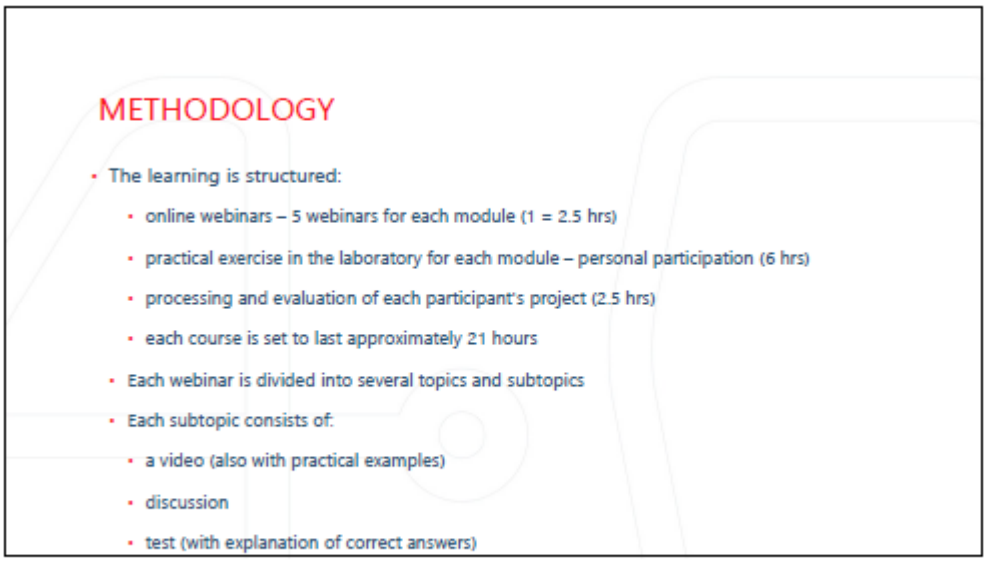
WP Category	Matador	NACERO	SIEA	SOITRON	SOVA Digital	Celkovo
WP3		2	2	65	128	**199**
WP4	1		68		1	**70**
WP5				29		**29**
Celkovo	**1**	**2**	**70**	**31**	**65**	**129**	**298**

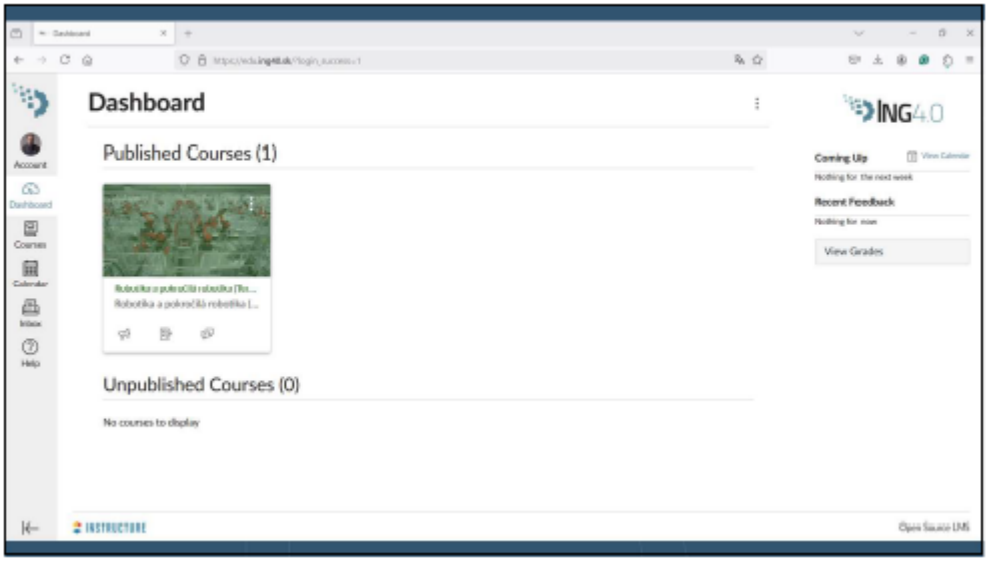
2. WORK PLAN, WORK PACKAGES, ACTIVITIES

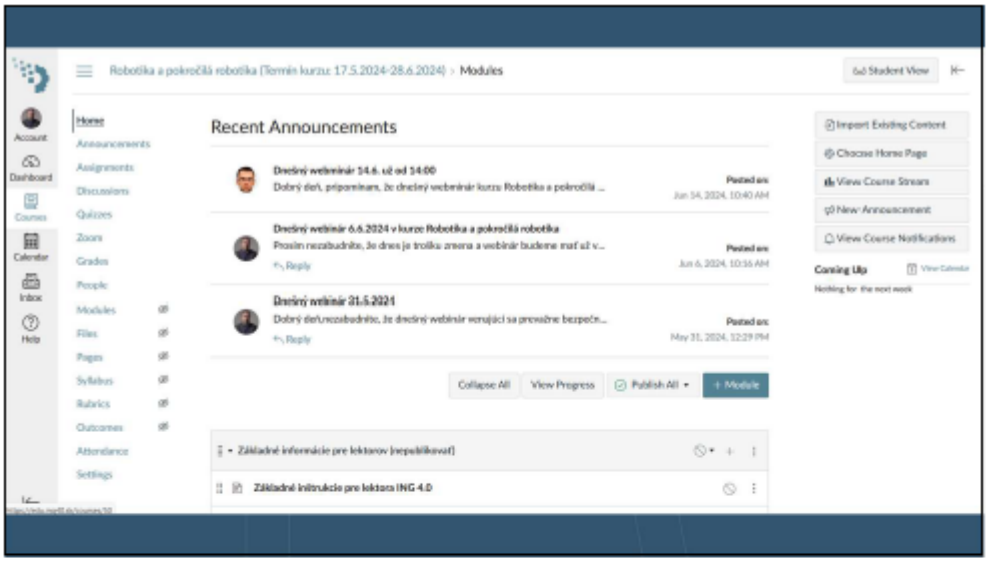
2.1 Work package 4: Skills and Training

Task No.	Task name	Description of the work performed
T4.1	**Content development:** Upskilling and Reskilling Training Tool/Content development	The project was developed based on a memorandum signed by representatives from industrial associations, leading technical universities, and the state. The content definition and oversight are managed by a **Council of Experts**, which includes representatives from both industrial enterprises and universities. This Council has identified five themes that are most relevant to practical applications. A total of **20 selected experts** from three of the top Slovak technical universities and leading companies contributed to the content creation. Four educational modules were developed, focusing on **robotics, logistics, data processing,** and **maintenance**. The module designed for top managers has been temporarily postponed due to a shortage of experts in that area. Each team consists of three university representatives, one company representative, and one coordinator. The courses are structured for **21 teaching hours**, which include five webinars (2.5 hours each), six hours of hands-on exercises, and a 2.5-hour final meeting. All courses are delivered via video recordings, making them independent of specific lecturers. Following the videos, participants engage in discussions and complete a test. A methodology for developing course content and completion requirements has been established, and all content has been evaluated by a group of experts from Slovak companies.
T4.2	**Skills development:** Train the trainers Management and I4.0 evangelists trainings; Training courses up and running	Currently, **29 specialists** from universities and industry are trained and actively involved in teaching. Pilot courses for each module were conducted in **May-June 2024**, providing valuable feedback for minor content adjustments. These pilot courses have successfully produced the first **7 graduates**, with a total of **225 graduates** planned to be served. The delay in starting the training was primarily due to the complex development process of the content by the three universities and a representative from the private sector. Additional delays occurred because of the summer holidays. To address this, an intensive campaign (WP7) was launched during the summer of 2024, which will continue throughout autumn 2024. This initiative, along with future campaigns through Industry4UM, will enable us to serve many more participants. Starting in autumn 2024, we will fully implement learning for practice.
T4.3	**Technology Bootcamps**	Based on the evaluation of the current state, supported by the latest Industry4UM 2023 survey on the level of digitization in enterprises, we identified a significant issue: graduates from secondary vocational schools often lack the necessary skills for digitized production. In response, we re-evaluated the parameters of our technology bootcamps and shifted our training focus toward students from secondary vocational

		schools and gymnasiums. We adjusted the format from 3-4 day sessions to 1-2 day bootcamps, aligning the content with the amount of information students can effectively absorb in a single session. This shorter format also enabled us to increase the frequency of bootcamps within the capacity of the EXPANDI 4.0 team. As a result, we successfully trained and enhanced the digital production skills of 284 students throughout the project.






Robotika a pokročilá robotika (Termín kurzu: 17.5.2024-28.6.2024) › Modules
Student View
Home
Announcements
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Discussions
Quizzes
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Grades
People
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Pages
Syllabus
Rubrics
Outcomes
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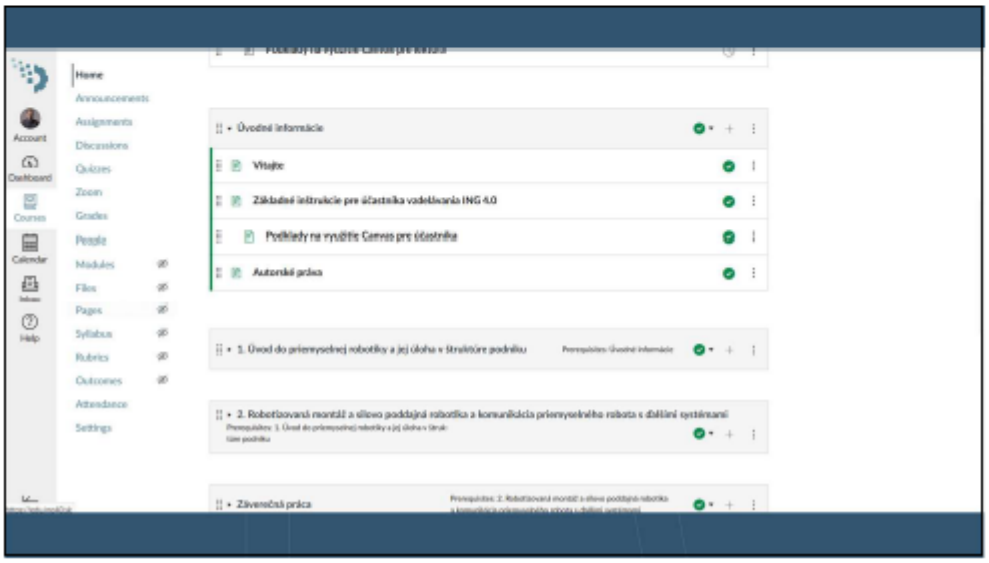
Settings
Recent Announcements
Dnešný webinár 14.6. už od 14:00
Dobrý deň, pripomínam, že dnešný webinár kurzu Robotika a pokročilá ...
Posted on:
Jun 14, 2024, 10:40 AM
Dnešný webinár 6.6.2024 v kurze Robotika a pokročilá robotika
Prosím nezabudnite, že dnes je trošku zmena a webinár budeme mať už v...
Reply
Posted on:
Jun 6, 2024, 10:16 AM
Dnešný webinár 31.5.2021
Dobrý deň,nezabudnite, že dnešný webinár venujúci sa prevažne bezpečn...
Reply
Posted on:
May 31, 2024, 12:29 PM
Collapse All
View Progress
Publish All
+ Module
Import Existing Content
Choose Home Page
View Course Stream
New Announcement
View Course Notifications
Coming Up
Nothing for the next week
Základné informácie pre lektorov [nepublikovať]
Základné inštrukcie pre lektora ING 4.0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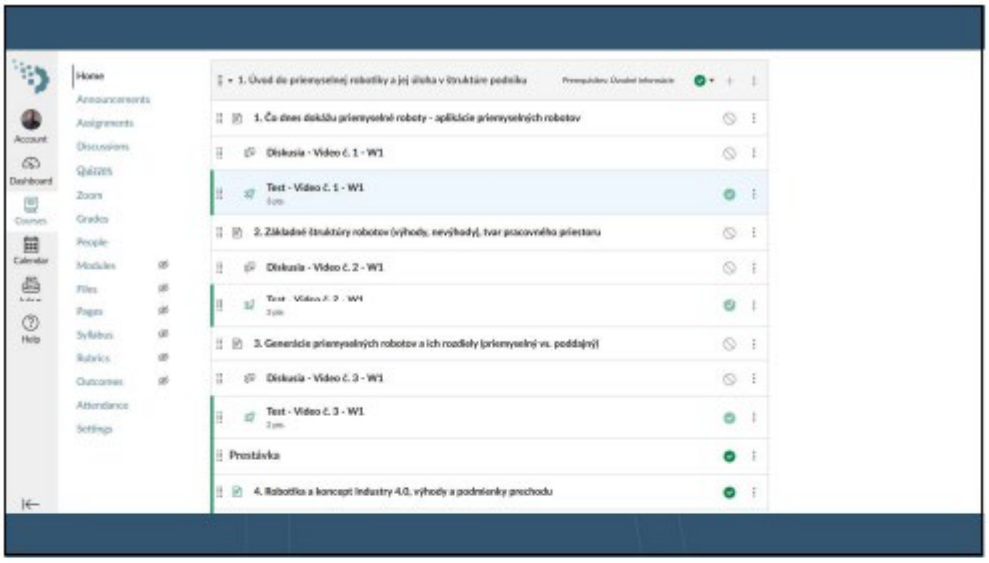
Settings
Úvodné informácie
Vitajte
Základné inštrukcie pre účastníka vzdelávania ING 4.0
Podklady na využitie Canvas pre účastníka
Autorská práca
1. Úvod do priemyselnej robotiky a jej úloha v štruktúre podniku
2. Robotizovaná montáž a ľudsko podobná robotika a komunikácia priemyselného robota s ďalšími systémami
Záverečná práca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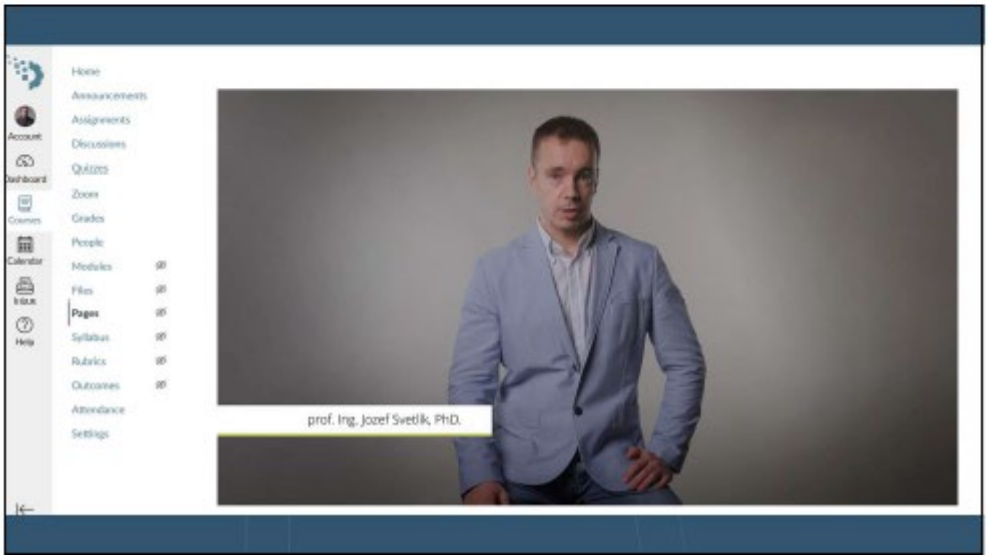
Settings
1. Úvod do priemyselnej robotiky a jej úloha v štruktúre podniku
1. Čo dnes dokáže priemyselné roboty - aplikácie priemyselných robotov
Diskusia - Video č. 1 - W1
Test - Video č. 1 - W1
2. Základné štruktúry robotov (výhody, nevýhody), tvar pracovného priestoru
Diskusia - Video č. 2 - W1
3. Generácie priemyselných robotov a ich rozdiely (priemyselné vs. poddajný)
Diskusia - Video č. 3 - W1
Test - Video č. 3 - W1
Prestávka
4. Robotika a koncept Industry 4.0, výhody a podmienky prechodu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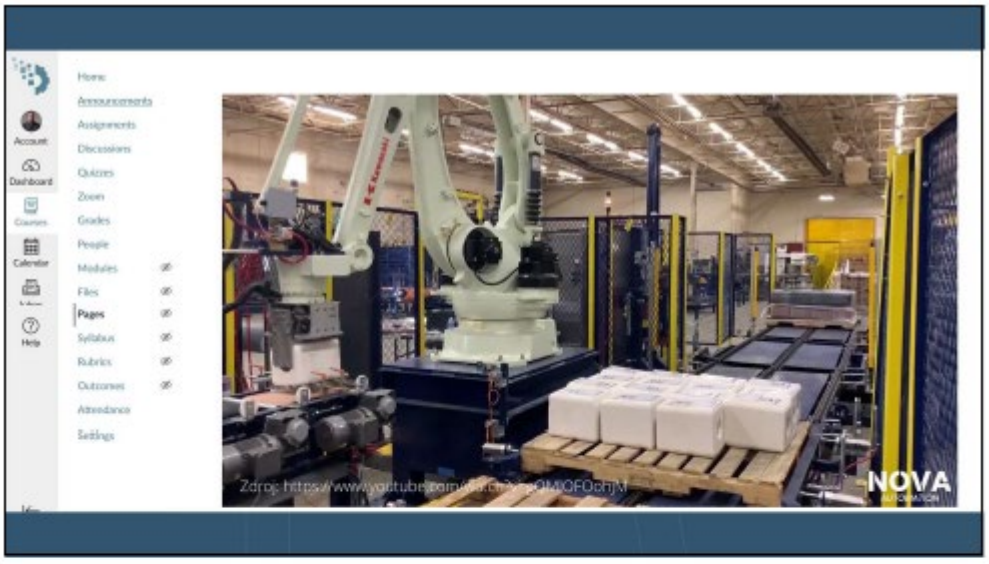
prof. Ing. Jozef Svetlík, PhD.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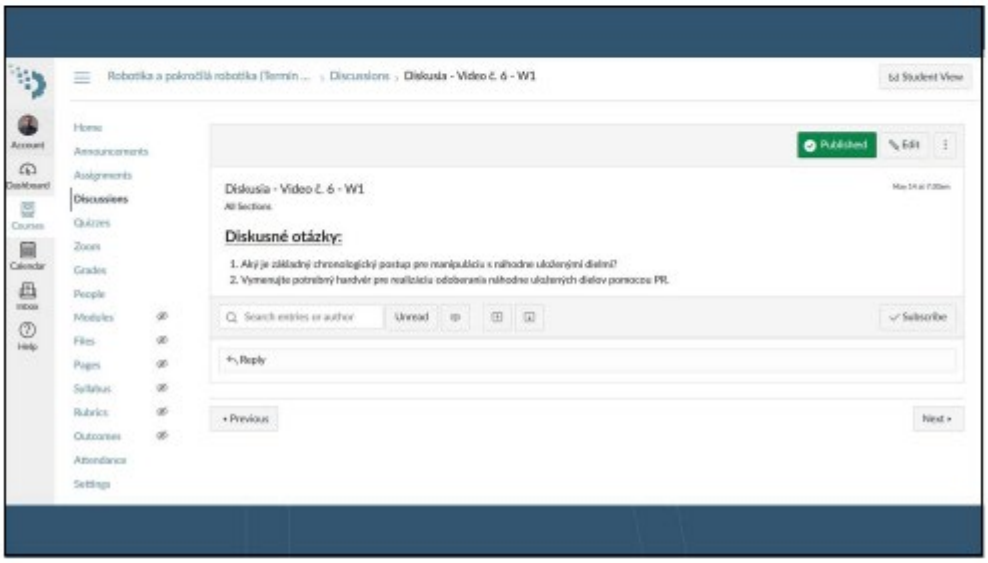
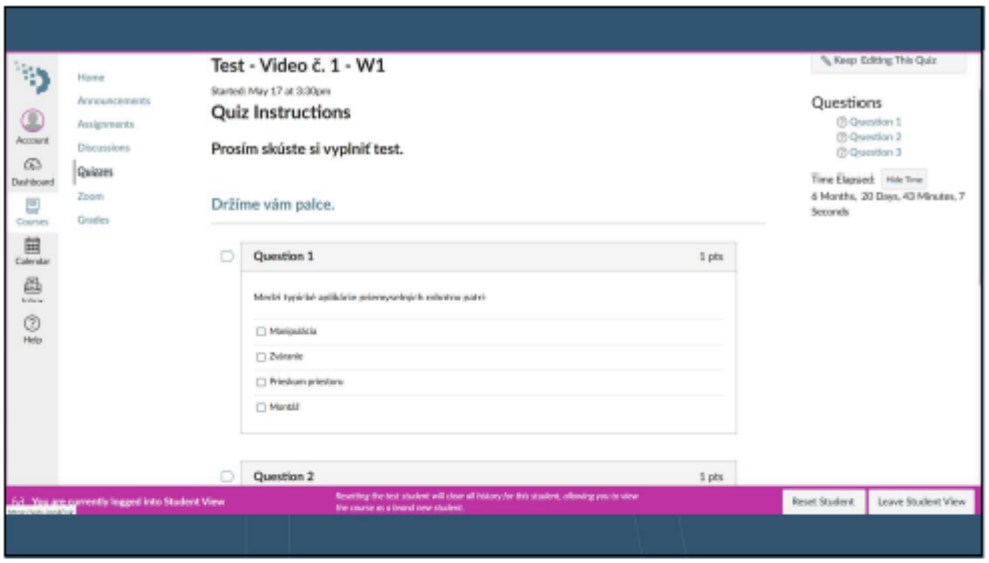
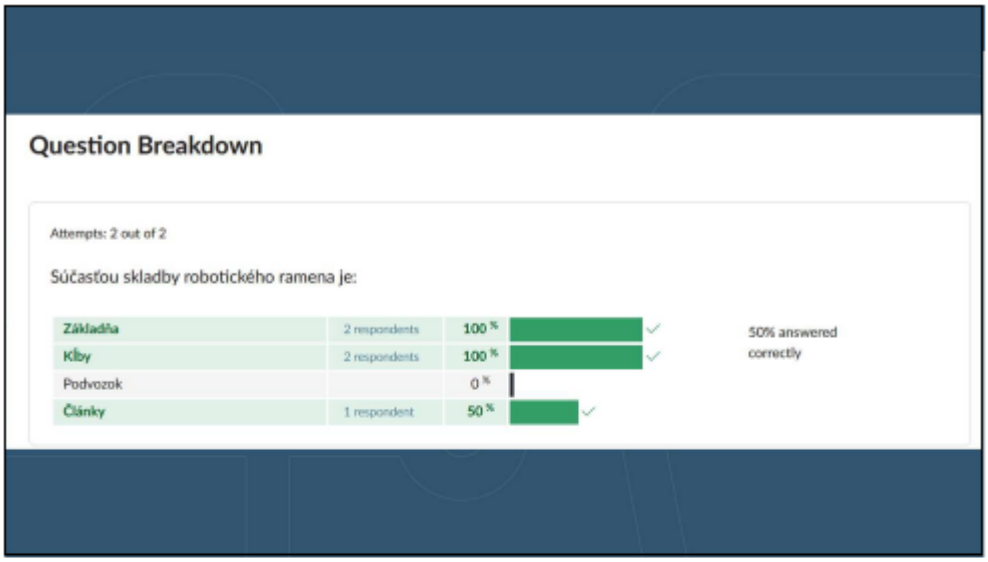
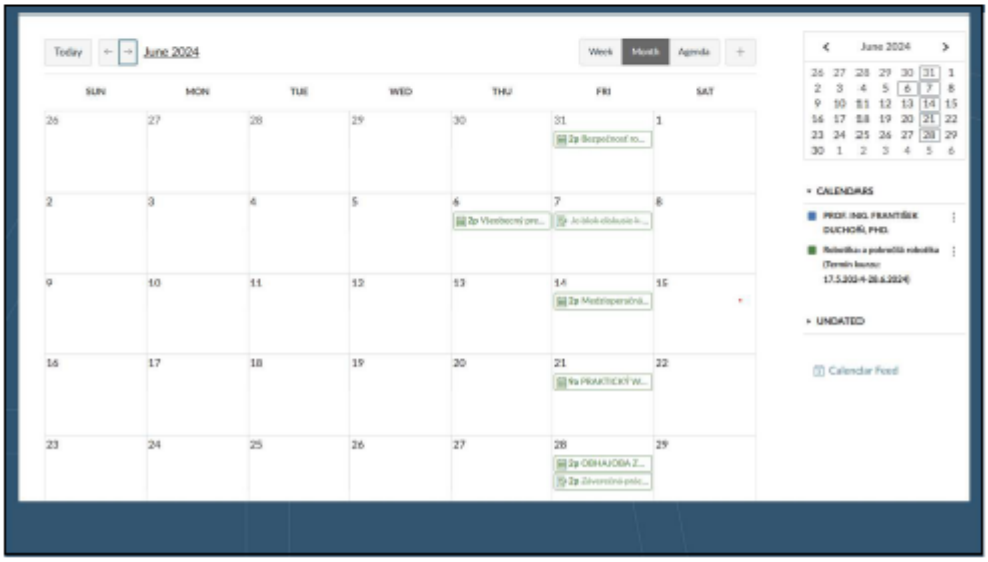

Robotika a pokročilá robotika (Termín ...
Discussions
Diskusia - Video č. 6 - W1
Student View
Published
Edit
Diskusia - Video č. 6 - W1
Diskusné otázky:
1. Aký je základný chronologický postup pre manipuláciu s náhodne uloženými dielmi?
2. Vymenujte potrebný hardvér pre realizáciu odoberania náhodne uložených dielov pomocou PR.
Search entries or author
Unread
Subscribe
Reply
Previous
Next


Test - Video č. 1 - W1
Quiz Instructions
Prosím skúste si vyplniť test.
Držíme vám palce.
Question 1
1 pts
Question 2
1 pts
Questions
Reset Student
Leave Student View

Quiz Summary
Section Filter
Student Analysis
Item Analysis
Average Score
94%
High Score
100%
Low Score
89%
Standard Deviation
0.17
Average Time
02:44
1
0%
10%
20%
30%
40%
50%
60%
70%
80%
90%
100%


Question Breakdown
Attempts: 2 out of 2
Súčasťou skladby robotického ramena je:
Základňa 2 respondents 100 %
Kĺby 2 respondents 100 %
Podvozok 0 %
Články 1 respondent 50 %
50% answered correctly


Today
June 2024
Week
Month
Agenda
SUN
MON
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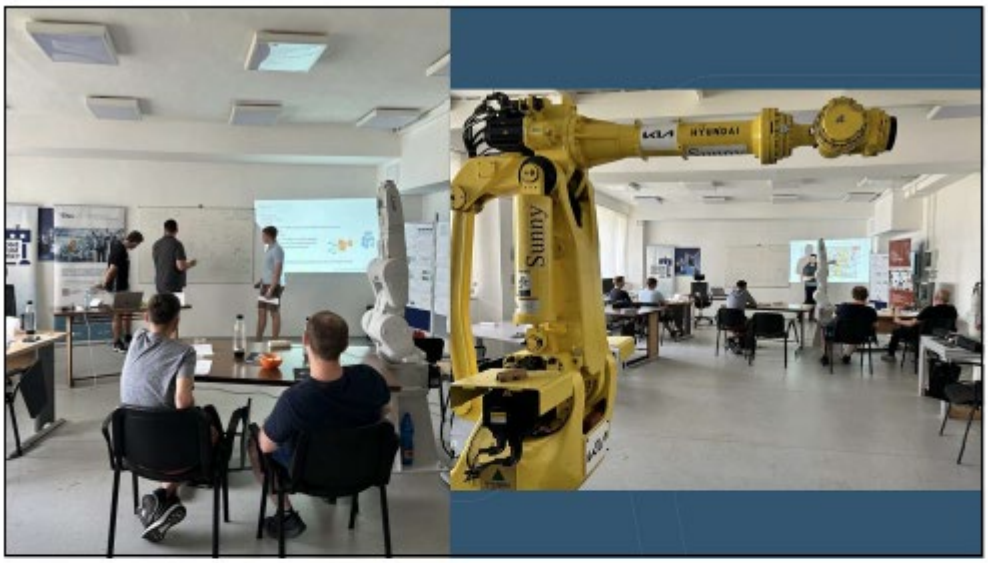
SAT
CALENDARS
UNDATED
Calendar Feed



EXPANDI 4.0
RESULTS, CHALLENGES AND HOW ARE WE DEALING WITH THEM

CURRENT STATUS

- T4.1 Content development: Upskilling and Reskilling Training Tool/Content development
  - **5 modules done, 1 preparing, more are planned**
- T4.2 Skills development: Train the trainers Management and I4.0 evangelists trainings; Training courses up and running
  - 29 specialists conducted pilote trainings during period of May – June 2024
  - **7 graduates**
- T4.3 Technology bootcamps
  - adjusted the format from 3-4 day sessions to 1-2 day bootcamps
  - **successfully trained 284 students**

BOOTCAMPS - PLACE OF IMPLEMENTATION

TestBed 4.0 - SOVA Digital workplace
Prototype and Innovation Center of the Technical University of Košice

WHY ARE WE BEHIND ON TASK T4.2?

- the complex development process of the content by the three universities and a representative from the private sector
- aadditional delays occurred because of the summer holidays
- a later communication campaign, which also required much effort for an effective and targeted setup
- not very effective support from official authorities (industry associations, ministries, etc.)

BUT WE ARE OPTIMISTIC

- All the partners and many other entities have taken action, the campaign is starting to take momentum, **overall visibility is much higher than in the initial stages**
- the result is that we already have **54 orders for the winter dates** (January-February), they are from only one region (where the Ministry of MIRRI was especially active)
- we also want to **serve secondary schools** (they have a huge interest in these modules)

History of changes

Date	Ver.	Author(s)	Change description
16.12.2024	1.0	Artur Bobovnicky	Document creation
17.12.2024	1.1	Artur Bobovnicky	Final text