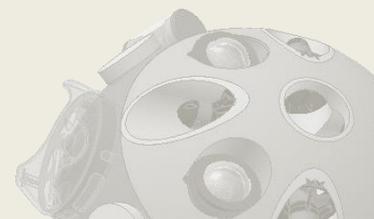


Use of robotics and automation for mineral prospecting and extraction

Joint Conference of UNEXMIN, iVAMOS! and RTM Projects

Hotel Kompas, Bled, Slovenia



Miscellaneous information

Organisation

The event is organised by the **Geological Survey of Slovenia**, with the contributions from **The Mercury Heritage Management Centre** from Idrija (organisation of field trip) and **La Palma Research Centre For Future Studies** (covers costs for lunch all three days).



Co-organisers are **iVAMOS!**, **UNEXMIN** and **RTM** project partners.



The event was funded from the UNEXMIN and iVAMOS! budgets.

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Responsible for the organisation and contact numbers

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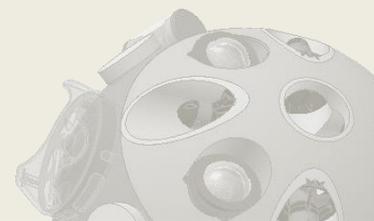
Presentations

All presentations are supposed to be 10 minutes long + 5 minutes for questions and answers. All speakers are asked to keep their timing according to the schedule, and section moderators will keep the track on the schedule. All speakers are asked to provide their presentations to the technicians before the session begins (i.e. during the coffee break). Supported presentation files are ppt, pptx and pdf.

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What to do in Bled beside visiting the conference or meetings?

For those who will not attend the meetings or conference, here is some information. The walking pathway around the lake is 4 km long. You can visit the island and ring the bell of wish. The boat station to visit the island is located next to the Mlino restaurant, approx. 15' walk in the clockwise direction from Bled. You can also visit the island by renting a boat. One rental station is located just oppositely of Bled, next to the camping. Visiting Vintgar gorge is a nice experience, especially in this low season, but you must take a bus from Bled. Be careful, some parts could be icy! There is plenty of snow in the mountains. Nearby ski resorts are Vogel, Kranjska Gora and Kravec. More information can be found here: <http://www.bled.si/en/about-bled>. There are regular bus connections to Ljubljana from Bled bus station. The bus drives more or less every hour ([link](#)). The Hotel Kompas has also small swimming pool, spa and sauna.

Learn Slovene

Here you can find some Slovene phrases, to assist you, and for you to be able to tell your friends you have learnt some words in a language spoken by only 2 million people.

For pronunciation guidelines you can visit the following web page: <http://slovlit.ff.uni-lj.si/sft/alphabet.htm>

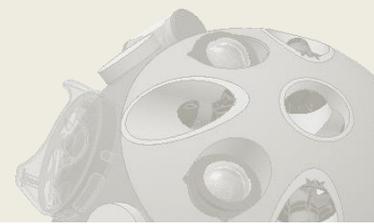
Slovene for travellers: <http://slovlit.ff.uni-lj.si/sft/>

Good morning.	Dobro jutro.	A glass of water please.	Kozarec vode prosim.
Good afternoon.	Dober dan.	Enjoy your meal.	Dober tek.
Good evening.	Dober večer.	One beer / coffee please.	Eno pivo / kavo prosim.
Good night.	Lahko noč.	One drink for everybody sitting behind this table on my account please.	Eno rundo prosim.
Hello.	Zdravo.	Cheers.	Na zdravje.
Good bye.	Nasvidenje.	I would like to pay.	Plačal bi.
Please / Thank you.	Prosim / hvala.	Where is a toilet?	Kje je stranišče?
I am hungry and thirsty.	Sem lačen in žejen.	I am lost. Please, help me.	Izgubil sem se. Prosim, pomagajte.

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Monday, 29 January 2018

Field trip to UNESCO heritage site Hg mine in Idrija (**invited by Idrija Mercury Heritage Management Centre**)

Touristic group* (currently 49 registered participants, 5 of them will come to Idrija by their own cars).

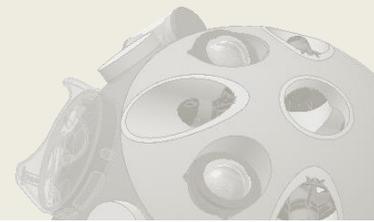
9:45 – 10:00	meet in front of the Hotel Kompas, Bled
10:00 – 11:30	drive to Idrija by bus
11:30 – 12:00	welcome at Antonijev rov, dressing up (jackets, helmets...) (location)
12:00 – 13:30	visiting Antonijev rov museum
13:30 – 14:00	drive to Hg smelting museum by bus (location)
	or walk to CudHG premises for people wanting to attend UNEXMIN meeting (for UNEXMIN partners only, location)
14:00 – 15:30	visiting Hg smelting museum
15:30 – 16:00	drive back to Idrija
16:00 – 18:30	lunch at KOS restaurant (location), invited by CudHG
18:30 – 20:00	drive back to Bled by bus

Visiting the UX-1 launch site (for UNEXMIN project partners only, 15 people maximum)**

8:15 – 8:30	meet in front of the Hotel Kompas, Bled
8:30 – 10:00	drive from Bled to Idrija by cars (2 cars by GeoZS, 2 cars by UNIM and 1 car by TUT) to the CudHG premises (location), please, use the highway to Logatec, don't use the »shortcut«
10:00 – 10:30	welcome, change clothes
10:30 – 11:00	descent to III level
11:00 – 13:15	visiting shaft (UX-1 launch site) in 3 groups, 45' per each group, maximum 3 people per group
13:15 – 13:45	going back to the surface
13:45 – 14:30	changing clothes, cleaning-up
14:30 – 16:00	UNEXMIN meeting at CudHG
	or joining touristic group (visiting Hg smelting museum, see touristic agenda)
16:00 – 18:30	lunch at KOS restaurant (location), invited by CudHG
18:30 – 20:00	drive back to Bled by cars

* CudHG will provide helmets and light waterproof jackets. The pathway is not difficult, but it might be slippery on some parts. Light trekking shoes are recommended footwear.

** CudHG will provide working overalls, T-shirts (but not underwear pants), belts for the mining lamp, mining lamps, gloves and helmets. **Good trekking shoes are required.** It's not so dusty and dirty in the mine, but if someone will need a shower after the mine visit that'll be no problem (we have 2 showers available).



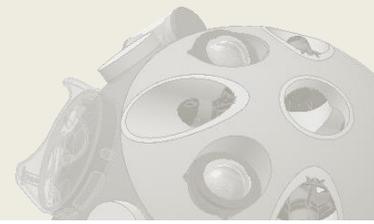
Tuesday, 30 January 2018 - Joint Conference of Agenda

8:30 - 9:00	Registration
9:00 – 9:30	Conference opening & Welcome address (<i>Conference room Jezerska dvorana – 1st floor</i>)
9:30 – 10:30	Plenary session (<i>Conference room Jezerska dvorana – 1st floor</i>)
Moderator: Gorazd Žibret, Geological Survey of Slovenia	
<ol style="list-style-type: none">1. Stef Kapusniak: Advances in Subsea Mining2. Marco A. Konrat Martins, LPRC: Future Mining: Scenarios and Roadmaps (an international review)3. Marko Munih: Robotics in Slovenia4. Tatjana Dizdarevič: Idrija Mercury Mine, one of the most technologically advanced mines of its time	
10:30 – 11:00	Coffee break (<i>Hotel Bar – Ground floor</i>)
11:00 – 12:30	Parallel sessions
<u>Hardware presentations (<i>Conference room Jezerska dvorana – 1st floor</i>)</u>	
Moderator: Norbert Zajzon, University of Miskolc	
<ol style="list-style-type: none">1. Stef Kapusniak: ¡VAMOS! prototype testing2. José Almeida et al.: EVA - Exploratory VAMOS AUV3. Norbert Zajzon et al.: Underwater sensors for UNEXMIN to obtain geological and geophysical Information4. Pedro Jorge et al.: GeoLIBS: Towards real-time ore grading systems in underwater mining applications5. Uwe Restner: Latest developments in hard rock continuous mining6. Toni Nikolić et al.: Geological properties of open pit “Smreka” Vareš as a pilot site for testing new mine technology	

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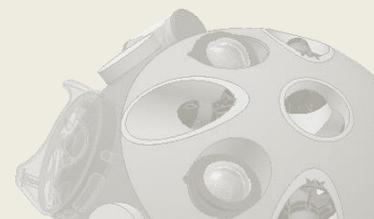


11:00 – 12:30	Parallel sessions
<p><u>Software presentations (Conference room Triglavska & Grajska dvorana – 3rd floor)</u> Moderator: Steve Henley, Resources Computing International Ltd</p> <ol style="list-style-type: none"> 1. Andreas Nüchter & Michael Bleier: Real-time 3D mine model updates in the iVAMOS! Project 2. Giorgia Stasi & Yves Vanbrabant: Defragmentation of information on abandoned underground mines in the framework of the UNEXMIN project 3. Zorana Milošević et al.: UX-1 Guidance, Navigation and Meta-control Software 4. Steve Henley et al.: UNEXMIN Post-Processing Software 5. Gorazd Žibret: Use of neural networks for the modelling, classification or categorisation tasks in geo-sciences 6. Nikolaus A. Sifferlinger: Co-existence of men and autonomous machinery in confined underground space – need for proximity detection and systems with functional safety 	
12:30 – 13:30	Lunch break (<i>Hotel restaurant – Basement floor</i>), invited by La Palma Research Centre
13:30 – 14:15	Plenary session – projects introduction (<i>Conference room Jezerska dvorana – 1st floor</i>) Moderator: Marko Munih, University of Ljubljana
<ol style="list-style-type: none"> 1. Jenny Rainbird: The iVAMOS! Sustainable Underwater Mining Solution 2. Feven Desta et al.: Real -Time Mining: Sensors for materials characterization 3. Luís Lopes: UNEXMIN project: an underwater explorer for flooded mines 	
14:15 – 14:45	Coffee break (<i>Hotel bar – Ground floor</i>)
14:45 – 18:00	Parallel workshops
<ol style="list-style-type: none"> 1. Exploitation Workshop (<i>Conference room Triglavska & Grajska dvorana – 3rd floor</i>), organised by Geological Survey of Slovenia and BTM Group 2. Research Roadmapping Workshop (<i>Conference room Blejska dvorana – 3rd floor</i>), organised by La Palma Research Centre 	
19:30	Networking dinner (<i>Hotel restaurant – Basement floor</i>), invited by Geological Survey of Slovenia

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Wednesday, 31 January 2018 - iVAMOS! Partner Forum

(for iVAMOS! partners and Advisory Board members only)

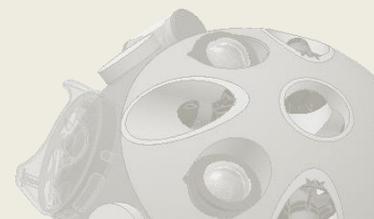
Conference room Blejska dvorana – 3rd floor

START	END	TITLE	WP	LEAD	EXPECTED OUTCOME	
09:00	09:10	Welcome, agenda confirmation				
09:10	09:30	Lee Moor trials evaluation and lessons learnt – MV and Overview	WP5	SMD	Description of trial, summary of results	
09:30	09:50	Lee Moor trials evaluation and lessons learnt - LARV	WP5	DAM (FB)	Action plan for modifications required for Pilot 2	
09:50	10:30	Lee Moor trials evaluation and lessons learnt – Sensors & VR	WP4/5	INESC	Action plan for modifications required for Pilot 2	
10:30	11:00	Coffee Break				
11:00	11:20	Lee Moor trials evaluation and lessons learnt	WP5	SAND	Action plan for modifications required for Pilot 2	
11:20	12:10	2 nd Field trials Planning – Overview of objectives and current status and action plan	WP5	SMD	Status of planning for field trials and next steps	
12:10	12:30	Social and environmental impact	WP6	FUGRO	update on work progress and next steps	
12:30	13:30	Lunch (invited by La Palma Research Centre)				
13:30	13:50	Feasibility, Viability and Market Up-Take , Macro and microeconomic feasibility	WP6	MUL	update on work progress and next steps	
13:50	14:15	Accessibility and industrial viability	WP6	SMD	update on work progress and next steps	
14:15	14:35	Publicity and scientific papers, status and discussion	WP1	DAM (FB)	Review of status and proposals to target dissemination	
14:35	15:00	Policy Recommendations and Future Research Roadmap	WP1	CF	update on work progress and next steps	
15:00	15:30	Coffee Break				
15:30	16:00	Exploitation actions following workshop on the 30 th and discussion as to what we will do with the equipment post project	WP6	BMT (JR)	Review of wksp results and group discussion .. what next...	
16:00	16:20	Financial update	WP7	BMT (JR)	Status report € and MM	
16:20	16:40	Reviewers and AB feedback on project.	WP7/1	BMT/DAM (JR/FB)		
16:40	17:00	Risk Register update	WP7	DAM (FB)		
17:00		AOB				
20:00		Shared cost dinner (location will be announced later)				

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Wednesday, 31 January 2018 -UNEXMIN Project Partners meeting

(for UNEXMIN partners and Advisory Board members only)

Conference room Triglavska & Grajska dvorana – 3rd floor

9:00 – 9:05	Welcome and practicalities of the two days (Gorazd Zibret)
9:05 – 9:20	General introduction of the project (Norbert Zajzon)
9:20 – 10:30	Present state of the WPs (WP1 15 min, WP2 15 min, WP3 20 min, WP4 20 min)
10:30 – 11:00	Coffee break
11:00 – 12:00	Present state of the WPs (, WP5 15 min, WP6 15 min, WP7 15 min, WP8 15 min)
12:00 – 12:30	Open discussion
12:30 – 13:30	Lunch (invited by La Palma Research Centre)
13:30 – 14:00	Open discussion
14:00 – 15:00	Advisory Board meeting (room A)
15:00 – 15:30	Coffee break
15:30 – 16:30	Timeslot for LTP workshop
16:30 – 17:30	Steering Committee meeting (room A)
16:30 – 17:30	Parallel technical discussion slot (room B) if needed
17:30 – 19:00	Technical discussion 1
20:00	Shared cost dinner (location will be announced later)

Thursday, 1 February 2018 -UNEXMIN Project Partners meeting

(for UNEXMIN partners and Advisory Board members only)

Conference room Triglavska & Grajska dvorana – 3rd floor

8:00 – 9:30	Technical discussion slot 2 (A and B parallel if needed)
9:30 – 11:00	Technical discussion slot 3 (A and B parallel if needed)
11:00 – 11:30	Coffee break
11:30 – 13:00	Technical discussion slot 4 (A and B parallel if needed)
13:00 – 14:00	Lunch (invited by La Palma Research Centre)
14:00 – 15:30	Technical discussion slot 5 (A and B parallel if needed)
15:30 – 16:00	Coffee break
16:00 – 16:20	Wrap up, closing