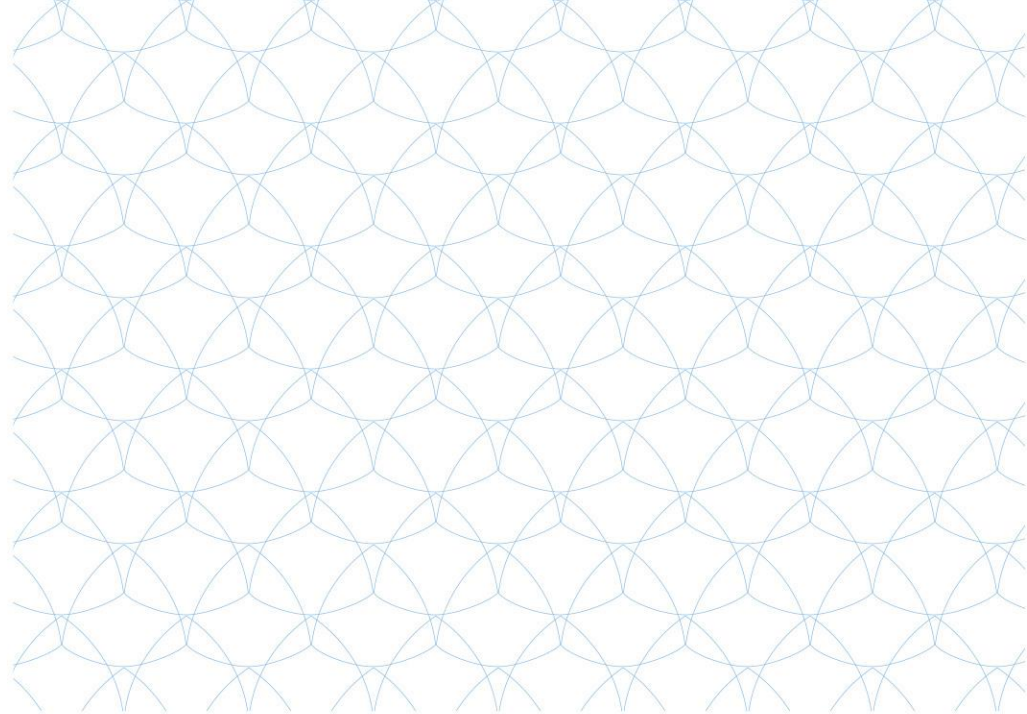




EXCELLABUST
EXCELLING LABUST IN MARINE ROBOTICS



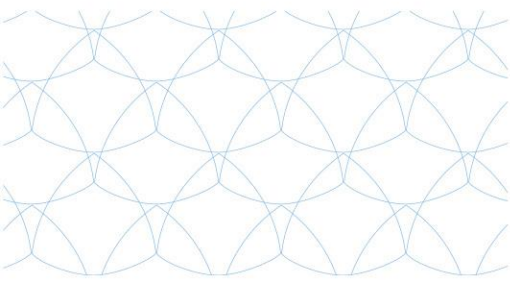
TRAINING 3

Report

“ROVs for Use in Challenging
Conditions: I-ROV & ROV
ÉTÁIN”

14-15 June 2018

University of Limerick



This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 691980.



1. VENUE

University of Limerick
Analogue Devices Building
Room AD1-045/46 (1st floor)

Limerick Docks, CRIS testing facilities
Limerick

2. SUMMARY

The ROV training has been very successful and executed according to plan.

The lectures on the first day by Edin Omerdic focused on quick review of simulation models from the Expert Visit to FER Zagreb by UL team in January 2017, implementation of these models inside the LabVIEW environment, main concept, architecture and extra features in a new version (OceanRINGS⁺). Agile development of reconfigurable, inspection-class ROV (I-ROV), aimed to perform a periodic and post-storm inspection of offshore MRE converters, moorings and foundations, has been described in details. Two Fault-Tolerant Control schemes have been described: Active FDI (which carries out real-time detection of thruster states using a Pattern Recognition Neural Network (PRNN), which classifies thruster data into thruster state targets) and Passive FDI (based on deduction of thruster faulty states in a single thruster layer from the ROV's motion during execution of the passive FDI test).

In hands-on practical session, students learned how to interact with HMI in order to execute simple and complex tasks, including injection of thruster faults, fault detection, isolation and accommodation.

In the second part of the first day, Gerard Dooly provided a brief introduction to the hardware elements of the UL ROV *Étáin* prior to travelling into the UL Limerick Docks facility.

At UL Limerick Docks students had opportunity to get a hands-on hardware and software elements of the ROV and a brief training on how to operate the ROV and sub-systems (manual pilot control, co-pilot interfaces, LARS operation & manipulator control).

The lectures on the second day by Gerard Dooly included description of features and physical layout of system components, standard ROV operation procedures and operation modes and results from ROV maiden voyage in May 2018.

In the second part of the second day, students were able to explore I-ROV at UL Wet Lab, learn about features and operation modes.

3. LIST OF PARTICIPANTS

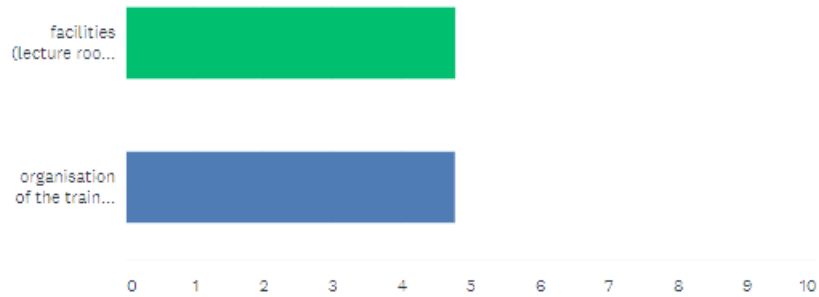
1. Anja Babić, anja.babic@fer.hr, University of Zagreb Faculty of Electrical Engineering and Computing
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 8. Gerard Dooly, Gerard.dooly@ul.ie, University of Limerick
 9. Petar Trsljic, petar.trsljic@ul.ie, University of Limerick
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4. SURVEY RESULTS

Q1

How would you rate the quality of:

Answered: 5 Skipped: 0

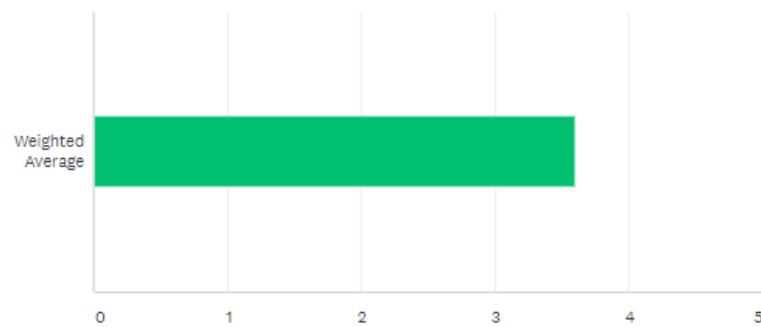


	BAD	BELOW AVERAGE	AVERAGE	ABOVE AVERAGE	EXCELLENT	TOTAL	WEIGHTED AVERAGE
facilities (lecture room, wireless internet, etc.)	0.00% 0	0.00% 0	0.00% 0	20.00% 1	80.00% 4	5	4.80
organisation of the training (syllabus, breaks, etc.)	0.00% 0	0.00% 0	0.00% 0	20.00% 1	80.00% 4	5	4.80

Q2

How would you rate your preparedness for the training?

Answered: 5 Skipped: 0

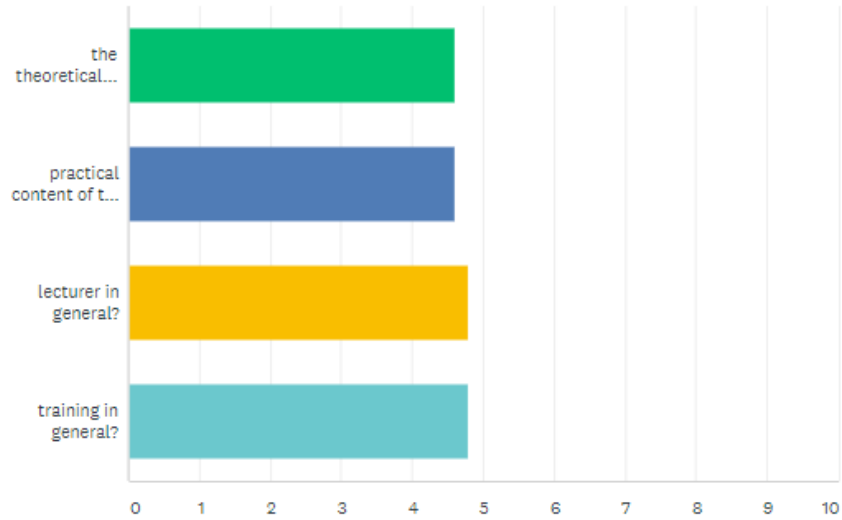


ANSWER CHOICES	RESPONSES
bad	0.00% 0
below average	0.00% 0
average	40.00% 2
above average	60.00% 3
excellent	0.00% 0
TOTAL	5

Q3

How satisfied were you with the:

Answered: 5 Skipped: 0



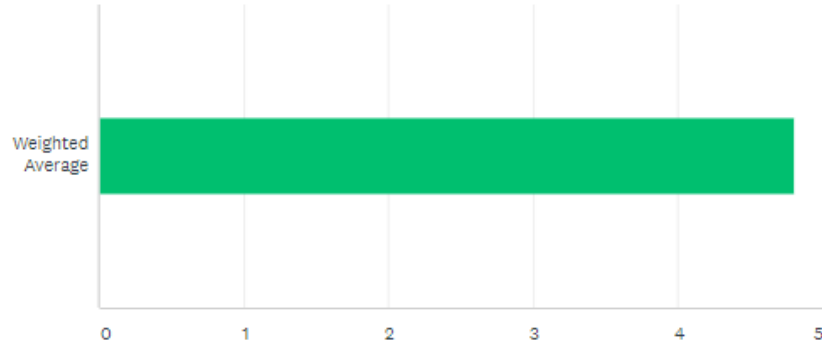
	VERY DISSATISFIED	DISSATISFIED	NEUTRAL	SATISFIED	VERY SATISFIED	TOTAL	WEIGHTED AVERAGE
the theoretical content of the training?	0.00% 0	0.00% 0	0.00% 0	40.00% 2	60.00% 3	5	4.60
practical content of the training?	0.00% 0	0.00% 0	0.00% 0	40.00% 2	60.00% 3	5	4.60
lecturer in general?	0.00% 0	0.00% 0	0.00% 0	20.00% 1	80.00% 4	5	4.80
training in general?	0.00% 0	0.00% 0	0.00% 0	20.00% 1	80.00% 4	5	4.80



Q4

How knowledgeable in the tutorial content were your lecturers?

Answered: 5 Skipped: 0

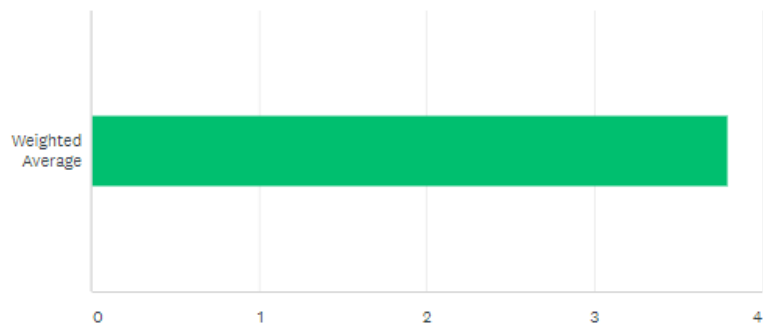


ANSWER CHOICES	RESPONSES
Not at all knowledgeable	0.00% 0
Not so knowledgeable	0.00% 0
Somewhat knowledgeable	0.00% 0
Very knowledgeable	20.00% 1
Extremely knowledgeable	80.00% 4
TOTAL	5

Q5

Did the ROV training meet your expectations?

Answered: 5 Skipped: 0

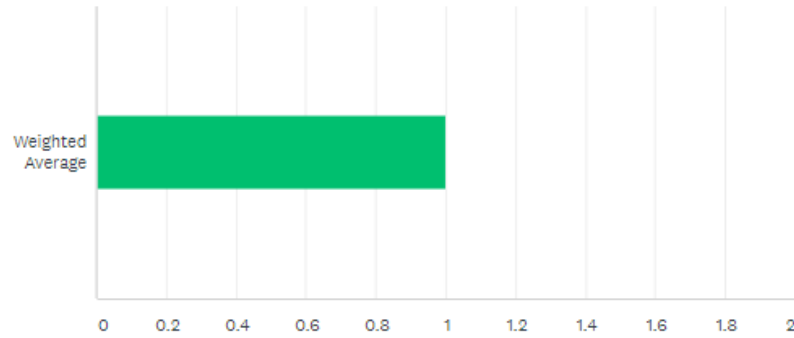


ANSWER CHOICES	RESPONSES
not at all	0.00% 0
partially	0.00% 0
met my expectations	20.00% 1
exceeded my expectations	80.00% 4
TOTAL	5

Q6

Would you attend another training organised within the scope of EXCELLABUST project?

Answered: 5 Skipped: 0



ANSWER CHOICES	RESPONSES
Yes	100.00% 5
No	0.00% 0
TOTAL	5

Q8

Which part of the training did you find

Answered: 3 Skipped: 2

ANSWER CHOICES	RESPONSES
the MOST useful?	Responses 100.00% 3
the LEAST useful?	Responses 66.67% 2

Showing 3 responses

exchange of the experience from the lecturers and gaining insight in how to manage such a system

7/9/2018 12:07 PM

[View respondent's answers](#)

Getting to know procedures and best practices offshore industry.

7/4/2018 3:36 PM

[View respondent's answers](#)

practical demo ROV

7/4/2018 8:43 AM

[View respondent's answers](#)



Q9

Do you have any further comments/recommendation on the training/lectures/organisation?

Answered: 3 Skipped: 2

Showing 3 responses

I really enjoyed the tutorial, it was very interesting and I learned a lot. Both lecturers are very knowledgeable and they explained the materials in an understandable way.

7/9/2018 12:07 PM

[View respondent's answers](#)

None

7/4/2018 3:36 PM

[View respondent's answers](#)

no

7/4/2018 8:43 AM

[View respondent's answers](#)