



COMP-ECO

PROJECT DELIVERABLE

D4.3 REPORT AND MATERIALS FROM WORKSHOP ON COMMERCIALISATION AND PATENTING STRATEGIES

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2.0 – 28/02/2024	Reviewed and approved by Michal Towpik (TPF)
3.0 – 24/06/2024	Added summary section by Nan Tao & Otto Bergsma (TU Delft)

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CONTENTS

1. Introduction	4
1.1. About the COMP-ECO project.....	4
1.2. Scope of this deliverable.....	4
2. Report on workshop	5
2.1. Objectives	5
2.2. The focus of the workshop	5
2.3. Workshop agenda.....	5
2.4. Participants	6
2.5. Impressions.....	7
3. Workshop materials.....	8
4. Deliverables and dissemination	13
5. Evaluation of the workshop	13
6. Summary.....	16
Appendix 1. List of participants	17
Appendix 2. Workshop agenda.....	19

1. INTRODUCTION

1.1. ABOUT THE COMP-ECO PROJECT

The COMP-ECO project is aiming at improving the research excellence of the Polish Mazovia region-based ecosystem in the field of Fibre-Reinforced Polymer (FRP) multifunctional composites and smart structures. The ecosystem is formed by 3 organizations: Technology Partners Foundation (TPF), Air Force Institute of Technology (AFIT) and Warsaw University of Technology (WUT). These 3 Polish partners will be supported by two leading EU universities: Delft University of Technology from the Netherlands and Technische Universität Dresden from Germany.

For 3 years the COMP-ECO partners jointly implement exploratory research work to develop a technology for a permanent on-line non-destructive quality assessment of composite structures. For this purpose, 2 possible innovative sensing capabilities are being developed: (1) self-diagnostics capabilities through the introduction of electroconductive carbon nano tubes in the composite's matrix during the manufacturing process and (2) self-sensing capability through embedding PZT sensors, encapsulated in a thermoplastic fibrous material (veils), in the composite structure.

In addition to the research work, the project will organize technical workshops aimed on raising the research profile of Mazovian composite community, and management and administrative training workshops to strengthen research management capacities and administrative skills of the Polish partners' administrative staff.

The COMP-ECO activities will establish and strengthen a regional competence hub formed by TPF, AFIT and WUT, whose increased science and innovation capacities will lead to more ambitious collaboration with top EU research organisations and industry, higher participation in Horizon Europe, and a more attractive educational offer for students and young researchers.

1.2. SCOPE OF THIS DELIVERABLE

The scope of this deliverable is to provide a comprehensive overview of the organised workshop on commercialisation and patenting strategies that took place in Warsaw in January 2024. The report encompasses selected materials prepared for and generated during the workshops which could be used for further trainings of research of the consortium partners, but also disseminated externally.

This document constitutes a short report on the workshop. The following sections of this deliverable include:

- The objectives of the workshop
- The focus of the workshop
- An overview of the agenda and participants

- Impressions
- Workshop materials and disseminations

2. REPORT ON WORKSHOP

2.1. OBJECTIVES

A successful implementation of a state-of-the-art science is facilitated by an appropriate supporting framework covering all stages from a) identification of funding opportunities, b) proposal preparation, through c) project management and administration until d) scientific paper writing and e) implementation of appropriate commercialisation and patenting strategies. The COMP-ECO Project addresses all these issues through a series of 5 research management and administration workshops addressed mainly to young researchers and administration staff without extensive European project experience.

In January 2024, the workshop on Commercialisation and Patenting Strategies was organized in Warsaw for improving the knowledge of TPF-AFIT-WUT research staff on the importance of IPR protection and the resulting benefits and possibilities.

The workshop was combined with the Project administration and Data management Workshop under the Task 4.3 which is reported in detail in the Deliverable D4.2.

The combined workshop was delivered by 3 representatives of TU Delft:

- **Anna Gralka**, Project Manager of the Project Management Team of Innovation & Impact Centre
- **Heather Andrews Mancilla**, Data steward of Faculty of Aerospace Engineering
- **Imge Goren**, IP Manager, Innovation & Impact Centre

2.2. THE FOCUS OF THE WORKSHOP

The advanced partners of COMP-ECO possess extensive experience in co-operating with industry. They are also more active in the area of patenting than the Polish side. One of the objectives of the Polish partners' is to create a competence hub to address the needs of the growing Polish composite industry. Therefore, it is important to acquire best practices in the area of industrial co-operation covering such aspects as co-operation arrangements, financing and IPR. The content of this workshop was developed based on TU Delft's experience of working with industry, especially SMEs, and based on their patenting strategies.

2.3. WORKSHOP AGENDA

The Commercialisation and Patenting Strategies workshop was held in Warsaw on January 30, 2024. The workshop was a one-day event and it was combined with the workshop of task 4.3 Project administration and data management. The training was designed by combining with collaborative and interactive methods, including presentations, hands-on exercises and group works.

The combined workshop was organized in 2 parts.

Part 1 was dedicated to the Horizon Europe project administration by Anna Gralka. It was interactive presentation and discussion focused on the project administration practices, coordination tips, consortium communication, and financial aspects according to the HE rules.

Part 2 was dedicated to Data management by Heather Andrews Mancilla and IPR Imge Goren. First, the data management block facilitated effective data organization, from collection to dissemination and archiving, ensuring reliable verification and supporting new research initiatives. Second, the effective strategies for commercializing of Intellectual Property Rights, including patenting, has been presented, supplemented with the practical work for the participants.

The agenda of the workshop was as follows:

Tuesday 30.01.2024	
PART 1 – Project administration 9:00 – 10:15 For administrative staff (managers, accountants). Research staff are welcome if interested.	
08:30 – 09:00	Arrival and coffee
09:00 – 09:20	Welcome & tour de table I by Otto Bergsma & Nan Tao
09:20 – 10:05	Project coordination by Anna Gralka
10:05 – 10:20	Break, coffee & tea
PART 2 – Data management and IPR & Patenting strategies 10:20 – 17:00 For research staff. Administrative staff (managers) are welcome if interested.	
10:20 – 10:30	Welcome & tour de table II by Otto Bergsma & Nan Tao
10:30 – 12:00	Data Management – presentation & workshop drafting DMP by Heather Andrews Mancilla
12:00 – 13:00	Lunch
13:00 – 14:30	Data Management by Heather Andrews Mancilla
14:30 – 14:45	Break, coffee & tea
14.45 - 16:30	Commercializing of Intellectual Property Rights and Patenting Strategies by Imge Goren
16:30 – 17:00	Coffee & tea & Questions / Feedback by Otto Bergsma & Nan Tao

2.4. PARTICIPANTS

36 participants took part in the Workshop and 3 more have connected online. They represented both the administrative staff (managers) and research staff of the Polish partners of COMP-ECO: TPF, WUT (Faculty of material Science and Engineering) and AFIT. The registration table is below, the signed list of participants is presented in Appendix 1 in an anonymized form.

		Commercialising of Intellectual Property Rights and Patenting strategies					
Organization	Position	Where to start when you have an idea and how does the patent process look like?	How can you use an IPRs (intellectual property rights)?	What is the meaning of inventorship and ownership? Who owns ideas/inventions generated by you?	What are the requirements of patent? Do you know how to combine the confidentiality requirement with a publication plan?	What's in it for you (employees) if you are one of the inventors?	What is your role in the process of pending patent file?
WUT	Young Scientists	I don't know					
WUT	Senior Scientists	I know - for PL patents					
AFIT	Young Scientists	I don't know					
AFIT	Engineer	I don't know					
AFIT	Accountant	I don't know					
AFIT	Senior Scientists						
AFIT	Young Scientists						
AFIT	Senior Scientists	I know - for PL patents	I know	I know	I know	I know the basis	I know
AFIT	Administration						
AFIT	Young Scientists	I don't know	I don't know the specific	I don't know the specifics	I don't know	I don't know	I don't know
AFIT	Young Scientists	I don't know	I don't know				
AFIT	Young Scientists	I don't know	I know		I know	I don't know	I don't know
AFIT	Young Scientists	I know - for PL patents	I don't know	I don't know	I don't know	I don't know	I don't know
AFIT	Senior Scientists	I don't know					
WUT	Senior Scientists	I know - for PL patents	I know	I know	I know	I know	
WUT	Senior Scientist	I know - WUT has appropriate un	I know	partly university, partly me, partly othe	I know the requirements of PL and EU patents	protection of know-how	preparation of substantive input
WUT	Young Scientists	I don't know					
WUT	Young Scientists	I don't know					
WUT	Senior Scientists	I know - for PL patents	I know	I know	I know	I know	I know
WUT	Administration						
AFIT	Senior Engineer	I don't know	I don't know	I don't know	I don't know	I don't know	I don't know
WUT	Financial manager						
TPF	Accountant						
TPF	Project director						
WUT	Dean of the faculty						
TPF	Vice-President						
TPF	Vice-President						
WUT	Senior Researcher						
TPF	Senior R&D Specialist						
TPF	Technical Researcher						
TPF	Project director						
AFIT	Senior Scientists						
AFIT	Administration						
AFIT	Young Scientists						
AFIT	Young Scientists						

2.5. IMPRESSIONS

All participants took part very actively and engaged in the workshop. The following pictures give a short impression.





3. WORKSHOP MATERIALS

In the presentation the ecosystem and the harmony between the intellectual Property department and the other departments in the Innovation and Impact Centre was explained. The basic understandings of intellectual property rights and their requirements were clarified. Depending on the conditions of a new idea/invention it was explained how TU Delft establishes an IP strategy and how TU Delft handles tech transfers in multiple ways. In the last part the main focus was on patent due to its importance. The three requirements of the patentability were explained and some examples from the European patent database were given. An example of a patent text was handed to the participants and further amendments which may increase chance of the patentability have been discussed.

The presentation slides are available at the project website: [Commercialization – Presentation slides](#)

The Mentimeter interactive tool was used during the workshop to interact with the audience.

IP - What can we add as additional features to make the invention "inventive"?

Extra functions

system for swappable receivers/ probes/sensors for data acquisition

Ecologic source of structural materials

Adding multifuncionality

use new materials

Add clear new aspect compared to existing solution(s)

enhancing safety features

bio-materials 3D printed



IP - What can we add as additional features to make the invention "inventive"?

be more specific on the sensors' / platform's parameters demonstrating their state-of-the-art (speed of measuring, accuracy, algorithms used...)



Group activity 2.

What is claimed is:

1. An automated inspection system (100) for monitoring a manufacturing process comprising:
- a core platform (104) to operatively connect a plurality of system (100) or subsystems via one or more interfaces; and
 - a sensor (110) system (106) operatively coupled with the core platform (104) to monitor one or more characteristics of a composite article being manufactured, the core platform (104) configured to:
 - receive a first measurement of the one or more characteristics of a composite article from the sensor (110) system (106) during layup of the composite article;
 - receive data regarding a second measurement of the one or more characteristics from the sensor (110) system (106) after curing the composite article; and
 - generate an alert in response to a determination that a defect exists in the composite article based on the first or second measurement; and
 - a state manager (136) operatively coupled with the core platform (104) to determine that a defect exists in the composite article, wherein determining that a defect exists in the composite article comprises comparing sensed data to one or more stored threshold values, said threshold values having been learned through a machine learning process by a trend analysis manager (138).
2. The system (100) of claim 1, further comprising a state manager (136) operatively coupled with the core platform (104) to determine a defect associated with the one or more characteristics:
- 2.1. The system (100) of claim 2.1, wherein the state manager (136) is configured to determine whether a first defect exists in the composite article based on the first measurement.
 - 2.2. The system (100) of claim 2.1, wherein the state manager (136) is configured to determine whether a second defect exists in the composite article based on the second measurement.
 - 2.3. The system (100) of claim 2.1, wherein the state manager (136) is configured to:
 - identify a value corresponding to the one or more characteristics associated with the defect based on the first or second measurement; and

25

calculate a score representing the degree of the defect of the manufactured article based on the identified values.

- 6.5. The system (100) of any preceding claim, wherein the core platform (104) further configured to:
- receive data regarding a third measurement of the one or more characteristics after performing a trim operation on the composite article;
 - determine whether a third defect exists in the composite article based on the third measurement; and
 - generate an alert in response to a determination that a third defect exists in the composite article.
- 7.6. The system (100) of any preceding claim, further comprising a human machine interface (112) operatively coupled with the core platform (104) to provide an interface between an operator and the system (100).
- 8.7. The system (100) of any preceding claim, further comprising an actuation system (100) operatively coupled with the core platform (104) to implement the manufacturing process based on instruction from the core platform (104), wherein the core platform (104) transmits the alert and information regarding a first or second defect to the actuation system (100) to adjust an operating value of a manufacturing process of the system (100).
- 9.8. The system (100) of any preceding claim, wherein the sensor (110) system (106) is operatively coupled with one or more of a non-contact ultrasound sensor (110), a laser sensor (110), an impedance sensor (110), an infrared sensor (110), or a heat sensor (110).
- 10.9. The system (100) of any preceding claim, wherein the characteristic comprises one of a density, a temperature, a chemical composition, and a thickness associated with the composite article.

26

- 11.10. A method of determining the integrity of a composite article comprising:
- measuring, by a sensor (110), a first characteristic corresponding to integrity of a composite article during layup of the composite article;
 - measuring, by the sensor (110), a second characteristic corresponding to integrity of the composite article after curing the composite article;
 - identifying, at a core platform (104), a defect based on the first or second characteristic; and
 - generating an alert in response to a determination that a defect exists in the composite article based on the first or second characteristic,
 - wherein determining that a defect exists in the composite article comprises comparing, by a state manager (136) operatively coupled with the core platform (104), sensed data to one or more stored threshold values, said threshold values having been learned through a machine learning process by a trend analysis manager (138).

- 12.11. The method of claim 11.10, further comprising:
- determining, by the core platform (104), a defect value associated with the first or second characteristic;
 - comparing the defect value to a plurality of defect values; and
 - designating the composite article as containing a defect based on the comparison.

- 13.12. The method of any of claim 11.10 or claim 12.11, wherein the first or second characteristic comprises one of a density, a temperature, a chemical composition, and a thickness associated with the composite article.

- 14.13. The method of any of claims 11.10 to 12.11, further comprising transmitting the alert to a human machine interface (112) operatively coupled with the core platform (104).

- 15.14. The method of any of claims 11.10 to 14.13, wherein the alert comprises video or audio identifying the defect.

16. A non-transitory machine-readable storage device comprising instructions which, when executed by a computer, cause the computer to carry out the method of any of claims 10 to 14.

27

4. DELIVERABLES AND DISSEMINATION

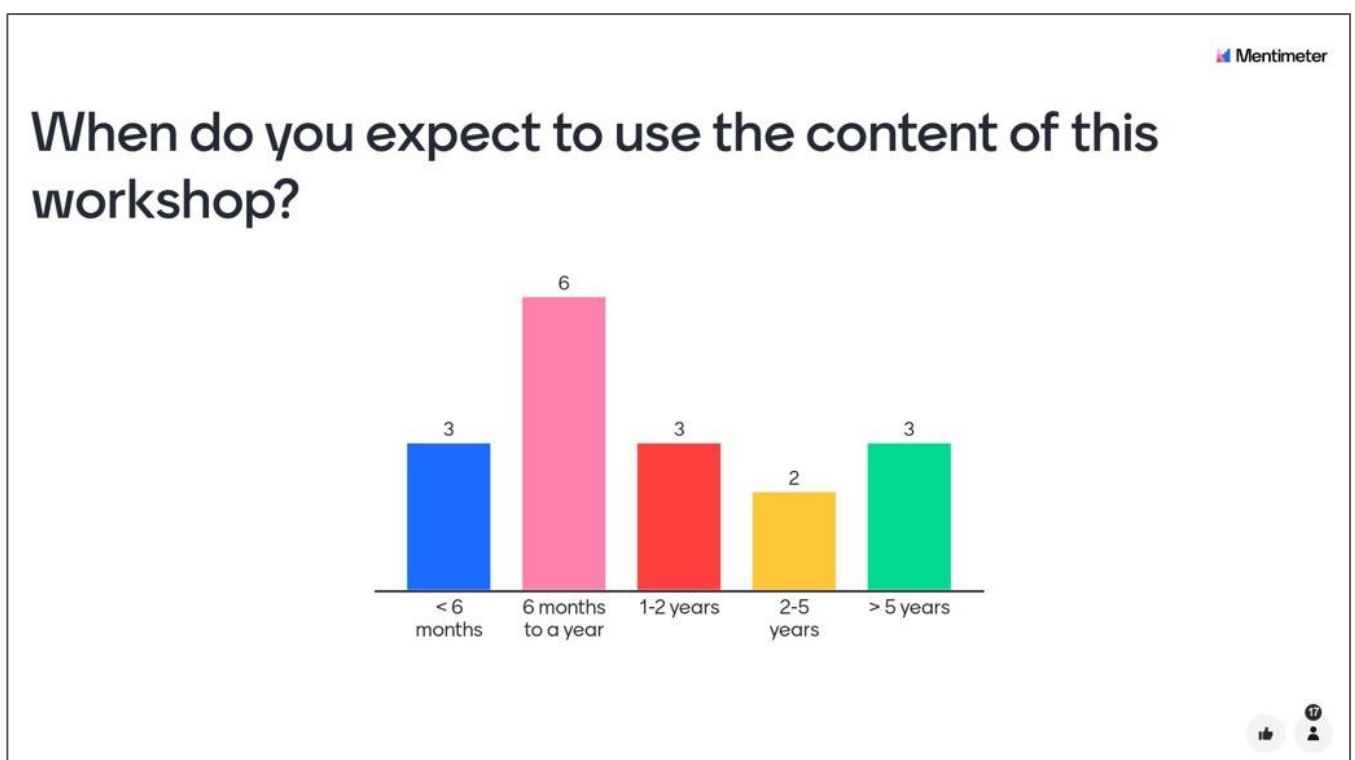
To effectively disseminate the workshop's outcomes and facilitate access for engineers, scientists, and researchers an open-access repository is established on the COMP-ECO webpage: <https://www.comp-eco.eu/open-repository> .

This repository serves as a comprehensive platform for sharing state-of-the-art knowledge, not only among the participating partners but also with researchers around the world. The presentations from the workshop on Commercialization and Patenting Strategies are published in the Repository via this link: <https://www.comp-eco.eu/workshop-on-project-management>

These valuable resources are readily available and easily accessible to a diverse audience seeking to enhance their understanding in the field. By uploading this content to the repository, we aim to foster knowledge exchange and contribute to the advancement of the scientific community on a global scale.

5. EVALUATION OF THE WORKSHOP

The feedback from the participants has been collected at the end of the workshop using the Mentimeter online tool. The questions and answers are presented below. The collected answers show that around 70% of the participants may use the content of this workshop in 2 year and 30% of the participants may use it in 2-5 years. How to write a patent in fast and easy way is one of the topics that the participants would like to gain more knowledge about.



Which unexpected result did you obtain from this workshop?

Possibility to deposit slides from the workshops in open repository

extra calories :)

new knowledge

Ideas for new collaboration possibilities

free food

how to clean a cow

how difficult is to write a patent

extra food



Which unexpected result did you obtain from this workshop?

risk paths anticipating



Which topics would you like to gain more knowledge about?

data management	Project management	Practices of Internal reporting in projects	how to properly use some of presented tools for data management
automatisation of data management	how to decrease the number of data created	data flow between project participants	Case studies of project oficer evaluation



Which topics would you like to gain more knowledge about?

Reporting personnel costs (actual / unit, etc.) , required evidence	how to write patents shorter and simpler	Cow cleaning device	how to write a patent in fast and easy way
more specific knowledge how to use presented tools for data management	fonding cow not cleaning		



6. SUMMARY


This section summarises the materials and knowledge generated during the workshop and also summarises achievements from the workshop.

The workshop on Commercialisation and Patenting Strategies was organized in Warsaw in January 2024 for improving the knowledge of TPF-AFIT-WUT research staff on the importance of IPR protection and the resulting benefits and possibilities. The workshop was combined with the Project administration and Data management Workshop under the Task 4.3 which is reported in detail in the Deliverable D4.2. 39 participants of the Polish partners of COMP-ECO (i.e., TPF, WUT and AFIT) have took part in the workshop, which represented both the administrative staff and research staff.

During the workshop, the effective strategies for commercializing of Intellectual Property Rights, including patenting, has been presented, supplemented with the practical work for the participants. The participants acquired knowledge on intellectual property rights and their requirements including copyright, patents, trade secrets and trademarks. The participants learned how to use IP for practicing and licensing, as a collateral and for defensive usage. They also acquired knowledge of three requirements of the patentability including novelty, inventive step of the invention and susceptible industrial application. Besides, they also learned what patent timeline is and how to start patenting by preparing the preliminary search report and the Dutch filing.

After the workshop, the consulting services on the related topics of Commercialisation and Patenting Strategies are available for the participants during the COMP-ECO project. Moreover, all workshop materials are available in the open-access repository established on the COMP-ECO website to effectively disseminate the workshop's outcomes and facilitate access for managers, scientists, and researchers. By doing this, we aim to foster knowledge exchange and contribute to the advancement of the scientific community on a global scale.

APPENDIX 1. LIST OF PARTICIPANTS




COMP-ECO

WORKSHOP "Project Management and Administration. Commercialisation and Patenting Strategies"

PART 2 - Data management and IPR & Patenting strategies.

30 January 2024

#	NAME	ORGANIZATION	SIGNATURE
1		ITWL	<i>[Signature]</i>
2		ITWL	<i>[Signature]</i>
3		ITWL	<i>[Signature]</i>
4		ITWL (AFIT)	<i>[Signature]</i>
5		ITWL	<i>[Signature]</i>
6		ITWL	<i>[Signature]</i>
7		ITWL	<i>[Signature]</i>
8		ITWL	<i>[Signature]</i>
9		ITWL	<i>[Signature]</i>
10		ITWL	<i>[Signature]</i>
11		TU Delft	<i>[Signature]</i>
12		TU Delft	<i>[Signature]</i>
13		TU Delft	<i>[Signature]</i>
14		WVT	<i>[Signature]</i>
15		TU Delft	<i>[Signature]</i>
16		TPF	<i>[Signature]</i>
17		ITWL	<i>[Signature]</i>
18		ITWL	<i>[Signature]</i>



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19		WUT	Bj
20		WUT	duy
21		WUT	de mi
22		WUT	m. Kinkorke
23		WUT	Ra
24		TPF	SP
25		WUT	tab da
26		WUT	Zistkorke
27		TPF	wj
28		TPF	die
29		TPF	PMV
30		WUT	Pedra Lillo deo
31		ITWL	SP
32		ITWL	R
33		ITWL	Judge
34		ITWL	R.
35		ITWL	
36		TO DELFT	Hull
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APPENDIX 2. WORKSHOP AGENDA



WORKSHOP

Project Management and Administration. Commercialisation and Patenting Strategies

Delivered by TU Delft, Innovation & Impact Centre



DATE: 30 January 2024

LOCATION: 141, WOLOSKA STREET, ROOM 215, Warsaw University of Technology, Faculty of Materials Science and Engineering

AGENDA

PART 1 – Project administration **9:00 – 10:15**

For administrative staff (managers, accountants). Research staff are welcome if interested.

TOPIC	TIMING	WHO
<i>Arrival and coffee</i>	08:30 – 09:00 (30 min)	
Welcome & tour de table Part 1	09:00 – 09:20 (20 min)	Otto Bergsma, Nan Tao
Project coordination	09:20 – 10:05 (45min)	Anna Gralka
<i>Coffee break</i>	10:05 – 10:20 (15min)	

PART 2 – Data management and IPR & Patenting strategies **10:20 – 17:00**

For research staff. Administrative staff (managers) are welcome if interested.

TOPIC	TIMING	WHO
Welcome & tour de table Part 2	10:20 – 10:30 (10 min)	Otto Bergsma, Nan Tao
Data management – presentation + workshop drafting DMP	10:30 – 12:00 (2,5 h)	Heather Andrews Mancilla
<i>Lunch break</i>	12:00 – 13:00 (1 h)	
Data management	13:00 – 14:30 (1,5 h)	Heather Andrews Mancilla
<i>Coffee break</i>	14:30 – 14:45 (15 min)	
Commercializing of Intellectual Property Rights and Patenting strategies	14:45 – 16:30 (1 h 45 min)	Imge Goren
<i>Coffee/drink and chat</i> > Questions / Feedback	16:30 – 17:00 (30 min)	Otto Bergsma, Nan Tao



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