3rd Gathering Event
November 30, 2020

Network management and exchange (WP7)

Jean-Luc Delplancke (Université Libre de Bruxelles)

Workpackage 7 Tasks

- **Task 7.1 – Manage and grow associate network** (**ULB**, UBHAM) **IN PROGRESS**
  - Management and continual effort will be made to further expand the associate network through dissemination and engagement with FCH stakeholders.

- **Task 7.2 – Manage staff exchange** (**ULB**) **ON HOLD DUE TO COVID**
  - A staff exchange programme will be setup and used to facilitate the movement of staff across the core and associate network to promote knowledge transfer and professional development. All exchanges will be logged and recorded.

- **Task 7.3 – Manage Annual Project Gatherings** (**UBHAM**, ULB) **BY VIDEO CONFERENCE**
  - Once a year all project partners will gather in the form of a (tribal) assembly to discuss the project progress, develop new ideas in producing project outcome, and discuss FCH teaching and progress in general. These gatherings are to mix professional content presentation and management with creativity, fun elements, and general motivation of everyone contributing to the project.

Task 7.1 – Manage and grow associate network

- The intention of the TeacHy project is to establish teaching material that will be employed by universities across Europe. The University Network will assemble all associated university partners wishing to participate in this material but who are not partners of the consortium. It is planned to continuously expand this grouping in order to broaden the base of users of the material developed.

- All these partners are informed via the TeacHy newsletters on the progress of the project and are invited to the Project Gatherings.

The associated network participant list

Vocational Training Partners	
CAMPUS Spa Franchorchamps	Belgium
UJV, Řež	Czech Republic
DVGW	Germany
CISM	Italy
Networking partners	
T.I.M.E.	EU/World
EUREC	EU/Brussels
University Network Partners	
University of Liège	Belgium
University of Louvain la Neuve	Belgium
IEES – Bulgarian Academy of Science	Bulgaria
University of Split (UNIST-FESB)	Croatia
University of Patras, FORTH-ICEHT	Greece
University of Western Macedonia	Greece

University Network Partners	
University Apris-Saclay	France
Hochschule München	Germany
University of Naples, Parthenope	Italy
University of Salerno	Italy
University of Udine	Italy
University of Trondheim/SINTEF	Norway
ZUT	Poland
National Hydrogen and Fuel Cell Centre	Romania
Jozef Stefan Int. Postgrad. School	Slovenia
London Southbank University	UK
FURJ/COPPE, Rio de Janeiro	Brazil
Yonsei University, S. Korea	S.Korea
Wuhan University of Technology	P .R.China
NTU	Singapore

Contacts with the T.I.M.E. network

What is T.I.M.E. Association? (Top International Managers in Engineering)

T.I.M.E. Top International Managers in Engineering

- Founded in **1989**
- **International network** of technical universities, engineering schools
- It draws its resources exclusively from **annual membership fees**. The annual fee has been set at **2,500 Euros** per.
- T.I.M.E. is governed by an **Advisory Committee** composed of representatives of thirteen elected members, led by a **Management Board** composed of a President, a Vice-President, a Treasurer and a Secretary.
- Secretary General:
  Ms Gwenaëlle GUILLERME
  gwenaelle.guillerme@time-association.org

http://www.timeassociation.org
@TIMEAssociation

57 members in **23** countries

https://timeassociation.org/time-members/

T.I.M.E.'s values and goals

- T.I.M.E. promotes **international cooperation**, **excellence** and **academic recognition** in higher education.
- It does so mostly by favoring the **exchange of graduate students** (Master and Doctoral) between its members, via negotiated bilateral exchanges leading to **double degrees**.
- Since the foundation of T.I.M.E., there have been **over 3,000 double degree graduates** from the network. A database is maintained by the Association on its website.

T.I.M.E. GA (Lisbon, IST, Oct,2017)

T.I.M.E. GA (Paris, CentraleSupélec, Oct,2019)

Contacts with the T.I.M.E network

- An e-mail was sent to all T.I.M.E. members at the beginning of the TeacHy project informing them on the objectives of the project and its organization.
- T.I.M.E. members were invited to participate in the Gathering event on 13 November 2018 in Brussels.
- The progress of the TeacHy project were presented during the following T.I.M.E. meetings:
    - General Assemblies:
      - October 12-13, 2017, Instituto Superior Técnico, Lisboa, Portugal
      - October 3-5, 2018, Escola Politécnica -USP, São Paulo, Brazil
      - October 2019, Centrale Supélec, Paris, France
    - Advisory Committees:
      - February 5-6, 2018, Lund university, Lund, Sweden
      - June 30 - July 1st, 2018, TU Darmstadt, Darmstadt, Germany
      - February 7-8, 2019, ETSI Sevilla, Sevilla, Spain
- A dedicated workspace was allocated to the T.I.M.E. members on the Learnify platform: time.learnify

Contacts with the EIT KIC InnoEnergy

What is EIT KIC InnoEnergy ?

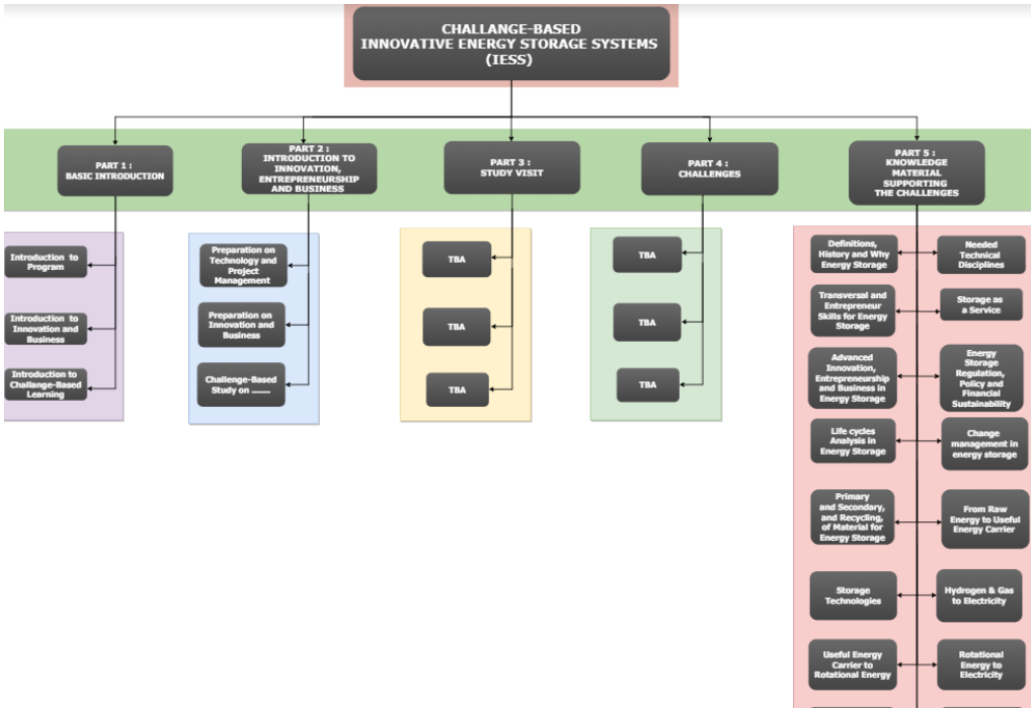
- The EIT is an independent EU body that intends to increase Europe's ability to innovate by nurturing entrepreneurial talent and supporting new ideas.

- With KIC InnoEnergy network of partners, connections across Europe, bringing together inventors and industry, graduates and employers, researchers and entrepreneurs, businesses and markets are built.

- The EIT KIC InnoEnergy works in the education to help create an informed and ambitious workforce that understands the demands of sustainability and the needs of industry.

Contacts with the EIT KIC InnoEnergy

- Inside the EIT KIC Innoenergy, Professor Torsten Fransson was coordinating the building of a Micromaster in energy storage. This stackable Micromaster will be available on the Learnify platform (https://innoenergy.learnify.se/l/) and will be open to all persons interested in learning how to store energy. The cooperation with Professor Fransson intends to ensure that hydrogen and fuel cells technologies will be covered by modules in this Micromaster. An example of such a module containing reference to reversible fuel cells is given here: https://innoenergy.learnify.se/l/show.html#Yy0K



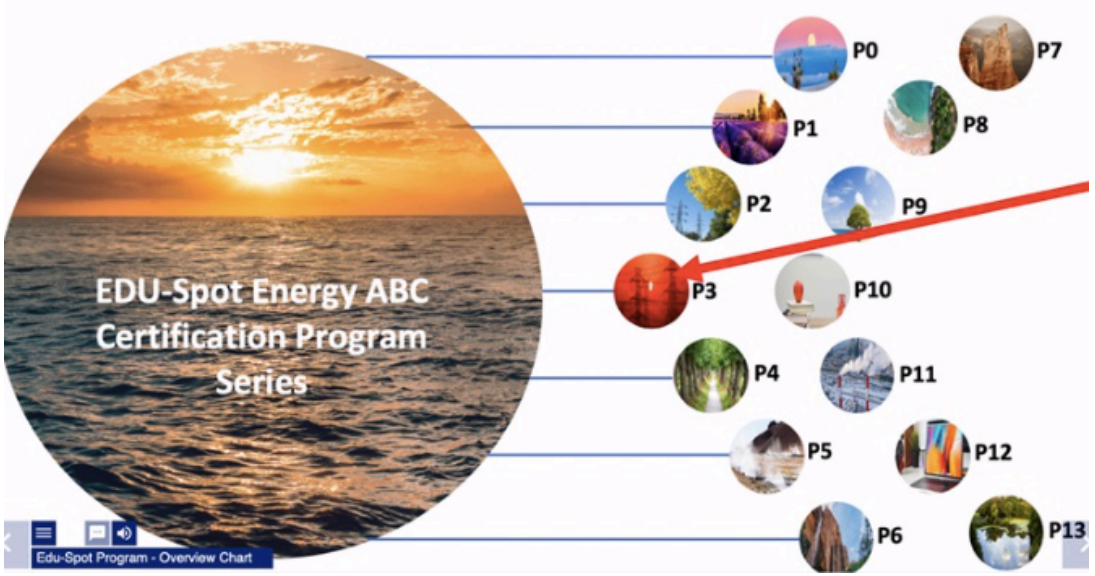
Contacts with Professor Torsten Fransson (KTH)

EUSL-Energy project

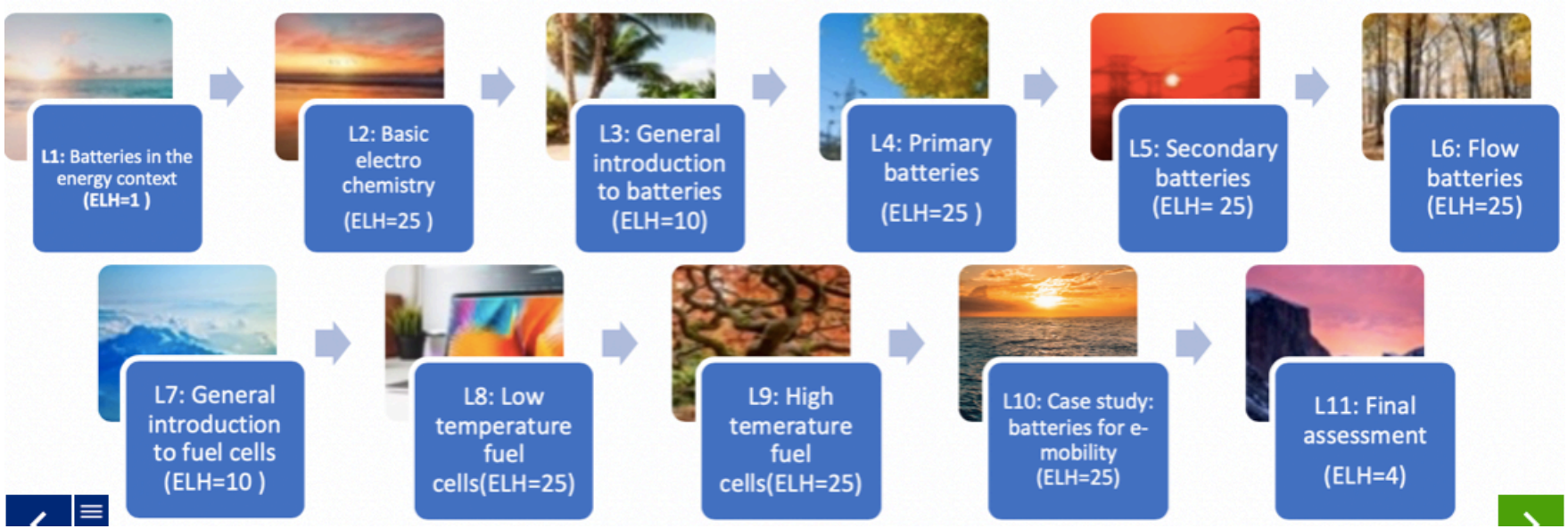
- Professor Torsten Fransson is responsible on the European side of the European project entitled “Europe – Sri Lanka Capacity Building in Energy Circular Economy”.
- This project intends to develop a common MSc on-campus program based upon digital online material between 4 universities in Sri Lanka.
- The coordinator of the project is the Open University of Sri Lanka (OUSL) and the partner institutions are the University of Moratuwa (UoC), the University of Peradenyia (UoP) and the University of Ruhuna (UoR).
- This project serves as the basis for two Erasmus+ projects submitted in 2020: EDU-Spot (to be re-submitted) and EDUBCC-Digital (to be supported)

EDU-Spot project

- The full title of this project is "21st Century Flexible, Digital and Online Global Education Towards Renewable and Sustainable Energy Storage Management in a Circular Economy Environment"
- The objectives of this project are:
  - To expand the concept of the EUSL-Energy project to other countries: India and Indonesia
  - To expand the concept towards fully online programmes



EDU-Spot project: P3 Electrochemistry for Energy



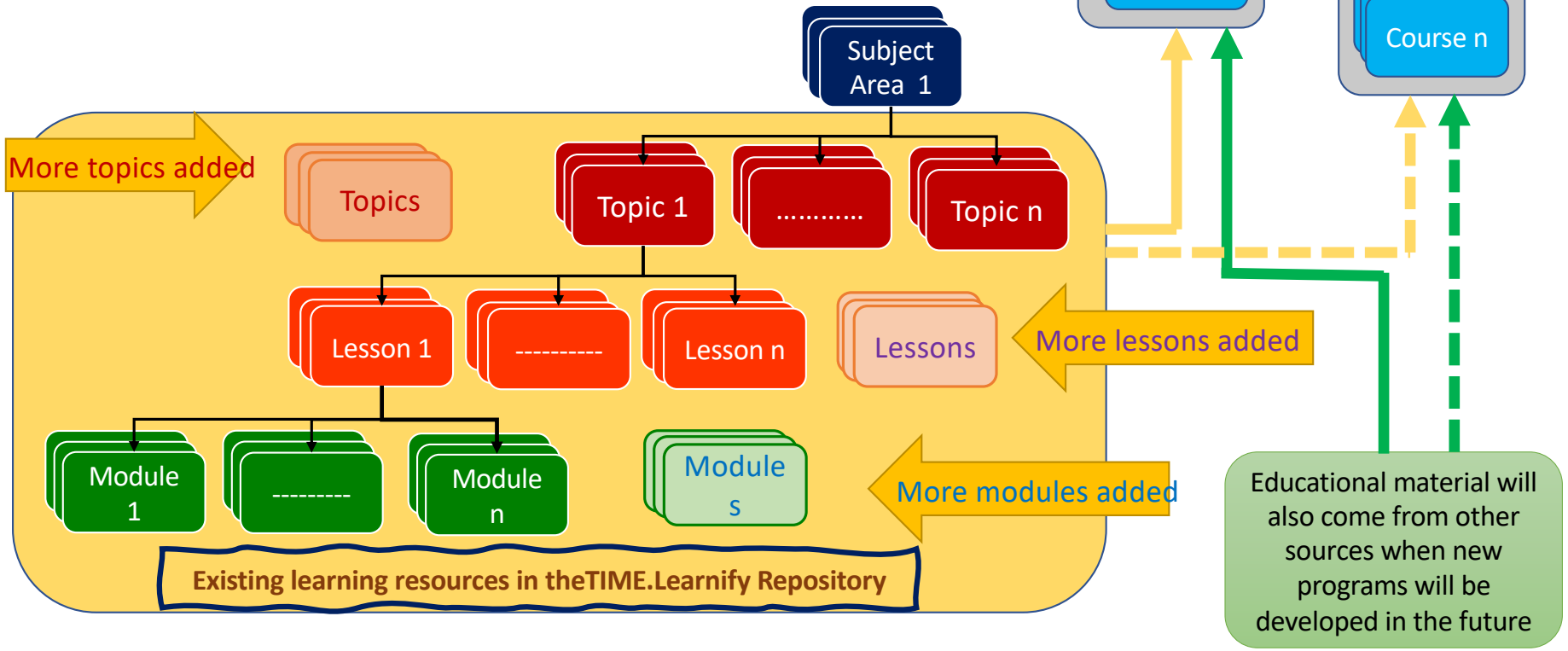
EDU-Spot project composition

- The partners in the EDU-Spot project are: the Open University Sri Lanka (OUSL), University of Peradeniya (UOP), the Odisha State Open University (India), Chhattisgarh Swami Vivekanand Technical University (CSVTU) (Bhilai, India), Indonesian Open University (Indonesia), ITERA (Indonesia), University of Ruhuna (UOR) (Sri Lanka), University of Moratuwa (Sri Lanka), Royal Institute of Technology (KTH) (Sweden), Mälardalen University (MDH) (Sweden), Universiteit Twente (The Netherlands), Riga Technical University (RTU) (Latvia), Universität Stuttgart (USTUTT) (Germany), Université Libre Bruxelles (ULB) (Belgium), EXPLORE Energy Sweden AB (EES), Learnify (Sweden), AudiComPendax AB (Aupx), Politehnica University of Bucharest (UPB) (Romania)

EUBCC-Digital project

- The “Europe-Brazil-Bolivia-Cuba Capacity Building Using Globally Available Digital Learning Modules” project is a “sister” project of the EDU-Spot.
- The countries involved in the project are Brazil, Bolivia and Cuba
- The partners involved in the project are: Universidade de Sao Paulo (USP-Coordinator), Federal University of Rio de Janeiro (UFRJ), Universidad de Pinar del Rio (UPR), Universidad de La Habana (UH), Universidad Central Marta Abreu de Las Villas (UCLV), Universidad Tecnológica de la Habana José Antonio Echeverría (CUJAE), San Simon University (UMSS), Universidad Privada Boliviana (UPBB), Royal Institute of Technology (KTH), Mälardalen University (MDH), Universiteit Twente (UT), Riga Technical University (RTU), Universitat Politècnica de Catalunya (UPC), Université Libre de Bruxelles (ULB), EXPLORE Energy Sweden AB (EES), Learnify, AudiComPendax AB (Aupx), Politehnica University of Bucharest (UPB)

The Learning resources in the TIME.Learnify repository will also in the future be used towards the creation of *other programs* (academic like MSc and BSc, but also professional) from *other organizations* (universities, associations, …).
In this process even more new material will be added to the repository, but material from other external sources will also be used for such programs.



Cooperation with the TeacHy project

- Online modules devoted to hydrogen and fuel cells have been developed on the time.learnify platform in order to be included in the list of available materials for building the education programmes in the two Erasmus+ projects (EDU-Spot and EUBCC-Digital).
- In comparison with the modules developed in the TeacHy project these modules are simplified and give a broad picture of hydrogen and fuel cells uses in energy storage.
- In the future, when the TeacHy modules will be fully ready, discussions will be started with the projects coordinators in order to make reference to the TeacHy Master program and/or to include some of the Teachy modules in the list of reference materials. This could indeed open access to fuel cells and hydrogen technologies to a worldwide community of students.

Thank you for your attention and open to questions!

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Progress: Status and Achievements (3)

- The up-dated associated network participant list contains in addition:

Partner Number	Partner Name	Country
Networking Partners from the T.I.M.E. group		
AN2	University of Queensland	Australia
AN3	Technical University of Vienna	Austria
AN4	Université de Mons	Belgium
AN5	Université Catholique de Louvain	
AN6	Vrije Universiteit Brussel (VUB)	
AN7	Universidade de São Paulo	Brazil
AN8	Universidade Estadual de Campinas	
	Polytechnique Montréal	Canada
AN9	Beihang University	P.R. China
AN10	Xi'An Jiao Tong University	
AN11	Czech Technical University in Prague	Czech Republic
	LUT - Lappeenranta-Lahti University of Technology	Finland
AN12	CentraleSupélec	France
AN13	École Centrale de Lille	
AN14	École Centrale de Lyon	
AN15	École Centrale de Marseille	
AN16	École Centrale de Nantes	
AN17	École des Ponts Paris Tech	
AN18	ENSTA Paris Tech	
AN19	Supaéro (ISAE)	
AN20	RWTH Aachen	Germany
AN21	Technical University of Berlin	
AN22	Technical University of Darmstadt	
AN23	Technical University of Dresden	
AN24	Technical University of Munich	
AN25	University of Hannover	
AN26	Aristotle University of Thessaloniki	Greece
AN27	National Technical University of Athens	
AN28	Budapest University of Technology and Economics	Hungary
AN29	Politecnico di Milano	Italy
AN30	University of Padova	
AN31	University of Trento	

Partner Number	Partner Name	Country
AN32	Doshisha University	Japan
	Yokohama University	
AN33	Keio University	
AN34	Tohoku University	
AN35	N.T.N.U. Trondheim	Norway
AN36	AGH University of Science and Technology, Krakow	Poland
AN37	Wroclaw University of Technology	
AN38	Instituto Superior Tecnico / Technical University of Lisbon	Portugal
AN39	Bauman Moscow State Technical University	Russian Federation
AN40	MIREA Moscow	
AN41	St. Petersburg State Polytechnical University	
AN42	Bauman Moscow State Technical University	
AN43	Universidad de Sevilla/ETSI	Spain
AN44	Universidad Pontificia Comillas/ICAI	
AN45	Universidad Politécnica de Madrid	
AN46	Universitat Politècnica de Catalunya	
AN47	Universitat Politècnica de València	
AN48	Lund University Faculty of Engineering/LTH	Sweden
AN49	Royal Institute of Technology (KTH) Stockholm	
AN50	Istanbul Technical University	Turkey

EDU-Spot project: P3 Electrochemistry for Energy

Lesson title	ELH	Content/Assement Module title (CM/AM)
L1:Introduction to the certificate "Electrochemistry for energy"	1	Introduction
L2: Basic electrochemistry	25	Thermodynamics, Kinetics, Performances and Design of Batteries
L3: General Introduction to batteries	10	Batteries in the energy context, History of batteries
L4: Primary batteries	25	Types, Uses, Future trends
L5: Secondary batteries	25	Types, Uses, Energy, Power, Charging, Portable, Energy storage, Intelligent, BMS, Future trends
L6: Flow batteries	25	Overview, Vanadium FB, Zn-Br FB, Semi-solid FB, Modelling
L7: General introduction to fuel cells	10	General introduction to fuel cells, FC types, FC operations
L8: Low temperature fuel cells (LTFC)	25	History, principles, PEMFC, AFC, PAFC, DMFC,
L9: High temperature fuel cells	25	Application, Modelling, Hydrid systems, Reversible FCs, Degradation
L10: Case study: batteries for e-mobility	25	Case Study Introduction + 5 tasks