



European
Ocean
Observing
System

CONNECTING COMMUNITIES FOR END-TO-END SOLUTIONS

CONFERENCE

21-23 NOVEMBER 2018

THE EGG, BRUSSELS



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The EOOS Conference 2018 is co-organised by the Secretariats of



EMODnet
European Marine
Observation and
Data Network



EuroGOOS
European Global Ocean
Observing System

European
MARINE BOARD
Advancing Seas & Ocean Science

With the financial support of



About this Conference

Between 2015 – 2018, EuroGOOS and the European Marine Board (EMB) jointly initiated and promoted activities to strengthen the coordination of Europe's capability in ocean observation and monitoring. With guidance from a Steering Group, several stakeholder meetings and consultations were organized as part of this initiative to consider how to improve the coordination and dialogue between various local, national, regional and pan-European marine data collection systems and networks. This has resulted in the co-design of a community Strategy and Implementation Plan 2018-2022 to connect and strengthen Europe's diverse and disparate ocean observing communities.

In October 2017, the EMODnet, EuroGOOS and European Marine Board Secretariats agreed to join forces to organise two linked events in 2018 to further progress the EOOS agenda: an EOOS Forum and an EOOS Conference. These events were co-designed with an EOOS events Advisory Committee, including representatives from a wider range of ocean observing and monitoring communities in Europe. The EOOS Forum (8 March, Brussels) focussed on sustainability of the current observing systems and how we can ensure their fitness for purpose.

This Conference was developed by the EMODnet Secretariat in close collaboration with the Secretariats of the European Marine Board and EuroGOOS, with guidance from other key stakeholders through an EOOS events Advisory Committee and with financial support from the European Commission Directorate-General for Maritime Affairs and Fisheries.

More information about the EOOS concept, the first EOOS Forum (March 2018, Brussels), the proposed EOOS Strategy and Implementation Plan can be found on WWW.EOOS-OCEAN.EU

This first EOOS Conference (21-23 November, Brussels) builds on the forum and three years of community action with the aim to bring together diverse stakeholders delivering to, and dependent on, Europe's ocean observation capacity; to showcase current and future capability; present insights from major ongoing activities; and connect diverse observing and monitoring communities and those that rely upon their outputs and services. The conference considers gaps and requirements as well as cost effective solutions that will contribute to evolving an efficient, inclusive and effective end-to-end European ocean observing capacity. Conference participants are invited to assess the future implementation of a proposed coordination framework, EOOS governance options and identify further concrete joint actions to advance the EOOS agenda. Up to now discussions on EOOS have focused primarily on the research community but this event brings in a much wider set of stakeholders involved in ocean observation. The scope is European but the global context and future trends for ocean observing are also taken into consideration.

Programme overview

Day 1 WEDNESDAY 21 NOVEMBER 2018

14:00-15:30 **OPENING SESSION - WELCOME AND OPENING KEYNOTES**

The opening session will set the stage for the Conference introducing the main themes/sessions, share perspectives from a variety of stakeholders and provide updates on progress made to-date with regard to the EOOS strategy and implementation plan 2018-2022.

16:00-17:45 **SESSION 1 - ECONOMIC AND SOCIETAL VALUE OF MARINE OBSERVING AND MONITORING**

This session will present work done to highlight the economic benefits and societal importance of observing and monitoring our coastal and marine environment, including cost-benefit studies.

Particular attention will be given to highlight how ocean observations can help save costs, generate added value and improve the quality of ocean products and services for industry and other users. This session will also discuss how businesses could contribute to improve ocean information products and services, e.g. by sharing data, co-design and collaborations with the public sector.

18:00-18:45 **POSTER SESSION 1 - CONNECTING THE DOTS FOR EOOS**

Poster pitch presentations covering conference themes:

- Ocean observation gaps & requirements, and solutions to tackle the challenges;
- Sharing efforts & collaboration across sectors and communities;
- From standalone to integrated ocean and coastal observing platforms;
- Linking ocean observations to modelling.

Day2 THURSDAY 22 NOVEMBER 2018

8:45-10:00 **SESSION 2 – EUROPEAN OCEAN OBSERVATION GAPS AND REQUIREMENTS**

Ongoing efforts to identify requirements and gaps for ocean monitoring and observation will be presented during this session. The key questions are: what are the requirements for ocean observations?; are the data we collect fit for purpose and use?; where are the gaps and how can they be filled?; what could we do better or more if we were to fill some of the gaps?

The expected outcome of the session is to develop a solution-based approach and identify priority gaps that will need to be filled based on data collection efforts with highest impact taking into account the effort and costs required. This should result in tangible actions on how gaps can be filled and requirements met. The session also aims to shed light on successes and challenges from ongoing initiatives.

10:30-13:00 **SESSION 3 – SHARED OBSERVING AND MONITORING EFFORTS ACROSS STAKEHOLDERS**

This session will sketch the complex and fragmented landscape of marine observation and monitoring efforts in Europe with a focus on collaboration initiatives in different sectors. The key questions are: what are the main efforts and how these could be better integrated?; how can we reduce the cost by better sharing of resources between communities?; what could be done better through collaboration, and how can we overcome barriers?

The aim is to generate a better common understanding between different observing and monitoring communities on the diverse approaches, perspectives and challenges they face and identify concrete areas where collaboration would be beneficial.

14:00-15:30 **SESSION 4 – REGIONAL ECOSYSTEM MONITORING AND OBSERVATION EFFORTS: FROM VARIABLES TO INDICATORS**

Examples of national, regional and sea-basin scale monitoring and integration projects, efforts and initiatives will be presented to consider how to better align the various efforts. The expected outcome is an open dialogue on mechanisms to increase collaboration between regional monitoring and observing actors and ensure connection to a wider European and global framework.



16:00-18:45 **SESSION 5 - FUTURE TRENDS IN A GLOBAL CONTEXT**

Session 5 will set European ocean observing in a global context, with insights from international developments and from other regional initiatives worldwide. Speakers will also look at future trends in ocean observation, including technological innovations. This will ensure European coordination efforts are aligned with what is happening elsewhere. The expected outcome is to identify how European efforts can contribute to global initiatives, how best practice can be best exchanged between regional initiatives worldwide and how these links can be strengthened.

19:00-19:30 **POSTER SESSION 2 - CONNECTING THE DOTS FOR EOOS**

Poster pitch presentations covering conference themes:

- Regional ocean monitoring efforts;
- Future look at the next generation of observing and monitoring tools and approaches;
- EOOS Sustainability, future priorities and next steps;
- Citizen Science for observation and monitoring;
- Ocean observation and human health: Monitoring needs and benefits.

Day3

FRIDAY 23 NOVEMBER 2018

8:30-8:50 WAKE UP TALK

Reflections on the challenges and opportunities of science-based, multidisciplinary and integrated approaches to ocean observation and open data in Europe.

9:00-9:30 SUMMARY OF THE BREAKOUT DISCUSSIONS DAY 2

Summary of the main points from the conference breakout sessions: how do these discussions impact on future priorities in ocean observation and next steps to deliver the EOOS strategy and implementation plan? What joint actions are to be considered priorities from stakeholder's perspectives?

9:30-10:30 SESSION 6 – SUSTAINABILITY, PLANNING OF ACTIVITIES, FUTURE PRIORITIES AND NEXT STEPS

This session consisting of a panel discussion will shed light on current practices in terms of planning and implementation of observing/monitoring activities in Europe and consider if these plans can be shared between communities. Panelists will tackle sustainability, observing platform requirements, data collection and how a sustainable European ocean observing coordination framework could work in practice. Finally, together with the audience, panelists will consider future priorities and next steps.

11:00-13:00: CLOSING SESSION

The closing session will consider how national authorities and the EU are already supporting ocean observing efforts and how they could contribute to improve coordination and efficiency in the future. This session will also present the main conclusions of the conference and consider how the discussions and recommendations impact on future priorities in ocean observation and next steps to deliver the EOOS strategy and implementation plan with joint actions. It will conclude with a presentation of the conference message and closing statement(s).

Conference Programme

Day 1 WEDNESDAY 21 NOVEMBER 2018

13:00-14:00 REGISTRATION

14:00-15:30 OPENING SESSION

WELCOME AND OPENING KEYNOTES

 AUDITORIUM

Opening	David Rose , <i>Conference Facilitator</i>
Welcome and introduction	Jan-Bart Calewaert , <i>Head of the EMODnet Secretariat</i>
Opening statement	Ricardo Serrão Santos , <i>Member of the European Parliament</i>
Perspectives from European Marine Institutes on requirements for ocean observation and monitoring of the marine and coastal environment	Jan Mees , <i>Director, Flanders Marine Institute (VLIZ, Belgium), and Chair of the European Marine Board (EMB)</i>
Climate change risks for coastal areas and related adaptation needs in Europe	Elena Visnar Malinovska , <i>Head of Unit, Adaptation to Climate Change, European Commission Directorate-General for Climate Action (DG CLIMA)</i>
The importance of marine data and observations for the private sector	Quillon Harpham , <i>Principal Scientist Coasts and Oceans, HR Wallingford, UK</i>
Messages from the 4th GEO Blue Planet Symposium	Pierre-Yves Le Traon , <i>Scientific Director, Mercator Ocean and Copernicus Marine Environment Monitoring Service (CMEMS)</i>
Towards a European Ocean Observing System (EOOS): from vision to strategy and implementation	Sheila Heymans , <i>Executive Director, European Marine Board (EMB)</i> Glenn Nolan , <i>Secretary General, European Global Ocean Observing System (EuroGOOS)</i>
Q&A	

15:30-16:00 COFFEE BREAK  RIVERSIDE

SESSION 1 - ECONOMIC AND SOCIETAL VALUE OF MARINE OBSERVING AND MONITORING AUDITORIUM

16:00-16:45 PRESENTATIONS

Introduction by Session Chair

Claire Jolly, *Head of Innovation Policies for Space and Oceans (IPSO) Unit, Directorate for Science, Technology and Innovation, Organisation for Economic Co-operation and Development (OECD)*

Assessing the economic value of ocean observation activities - case studies

Ayeisha Brinson, *Senior Economist, US National Oceanic and Atmospheric Administration (NOAA)*

Business perspectives on the marine knowledge value net

Arjen Uytendaal, *Managing Director, Maritime by Holland, Netherlands and President of European Network of Maritime Clusters (ENMC)*

Q&A

16:45-17:45 MODERATED PANEL DISCUSSION

Moderator: **Ralph Rayner**, *London School of Economics and US National Oceanic and Atmospheric Administration NOAA*

Panelists:

- **Mario Dogliani**, *Director General, Fondazione CS MARE*
- **Rémi Gruet**, *CEO, Ocean Energy Europe OEE*
- **Richard Heard**, *INSITE Programme Director*
- **Alexandra Neyts**, *General Secretary, European Aquaculture Technology and Innovation Platform (EATiP) and Project Manager, Norwegian University of Science and Technology NTNU*

18:00 - 20:30 NETWORKING RECEPTION RIVERSIDE

18:00 - 18:45 POSTER SESSION 1 - CONNECTING THE DOTS FOR EOOS

Poster pitch presentations covering conference themes:

- *Ocean observation gaps & requirements, and solutions to tackle the challenges;*
- *Sharing efforts & collaboration across sectors and communities;*
- *From standalone to integrated ocean and coastal observing platforms;*
- *Linking ocean observations to modelling.*

18:45 - 20:30 NETWORKING AND MUSIC

Day2 THURSDAY 22 NOVEMBER 2018

8:15-8:45 REGISTRATION

SESSION 2 – EUROPEAN OCEAN OBSERVATION GAPS AND REQUIREMENTS AUDITORIUM

8:45-10:00 PRESENTATIONS

Introduction by Session Chair

Ana Tejedor Arceredillo, Marine Conservation and Policy Implementation Expert, European Environment Agency (EEA)

Integrated ocean observing: insights from EMODnet Sea-basin data stress-tests

Jun She, Chief Consultant, Danish Meteorological Institute (DMI), and Coordinator of the EMODnet Baltic Sea-basin Checkpoint

European ocean observation gaps and requirements: insights from AtlantOS and other projects and initiatives

Erik Buch, Senior Consultant, European Global Ocean Observing System (EuroGOOS)

Ocean ecosystems: How can new approaches and technologies address gaps and requirements for biological ocean observations?

Lisandro Benedetti-Cecchi, Professor at the Department of Biology and Vice Rector for European and international research, University of Pisa, Italy

In situ and satellite observation requirements from the Copernicus Marine Environment Monitoring Service (CMEMS)

Antonio Reppucci, Coordinator of Earth Observation Data, Mercator Ocean for Copernicus Marine Environment Monitoring Service (CMEMS)

Q&A

10:00-10:30 COFFEE BREAK  RIVERSIDE

SESSION 3 – SHARING OBSERVING AND MONITORING

EFFORTS ACROSS STAKEHOLDERS  AUDITORIUM

10:30-11:30 PRESENTATIONS

Introduction by Session Chair

David Mills, Director iMarDIS- SEACAMS at Marine Centre Wales, Bangor University

Multi use of infrastructure for monitoring: experiences from the JPI Oceans pilot action

Svend Otto Remøe, Special Adviser, The Research Council of Norway (RCN)

Use of data and observations collected by industry: Experience from the LoVe observatory

Anders Hermansen, Principal Engineer Sustainability Environment Technology, Equinor

What can EMODnet do for EOOS? Experiences from building a broad-scale European seabed habitat map, EUSeaMap

Steve Gibson, Science Director, Joint Nature Conservation Committee (JNCC), UK

Q&A

11:30-13:00 BREAKOUT SESSION

 AUDITORIUM AND RIVERSIDE

Breakout discussions in groups covering conference topics:

- Economic and societal value of marine observing and monitoring;
- European ocean observation gaps and requirements;
- Sharing observing and monitoring efforts across stakeholders.

13:00-14:00 LUNCH  RIVERSIDE

SESSION 4 – REGIONAL ECOSYSTEM MONITORING AND OBSERVATION EFFORTS: FROM VARIABLES TO INDICATORS AUDITORIUM

14:00-14:50 PRESENTATIONS

Introduction by Session Chair

David Connor, Policy Officer,
European Commission Directorate-General for
Environment (DG ENV)

Joint monitoring and assessment between Member States: experiences on Member State collaborations from pilot projects in North and Celtic Seas

Lisette Enserink, Senior Policy Advisor, Ministry
of Infrastructure and Water Management/
Rijkswaterstaat, Netherlands

Evolution of monitoring landscape Mediterranean Sea

Jelena Knezevic, Monitoring and Assessment
Officer, UN Environment/Mediterranean
Action Plan

Fisheries and ecosystem approach

Mark Dickey-Collas, Chair of the Advisory
Committee, International Council for the
Exploration of the Sea (ICES)

14:50-15:30 MODERATED PANEL DISCUSSION

Moderator: **David Connor**, Policy Officer, European Commission
Directorate-General for Environment DG ENV

Panelists:

- **Mark Dickey-Collas**, Chair of the Advisory Committee, International Council for the Exploration of the Sea ICES
- **Lisette Enserink**, Senior Policy Advisor, Ministry of Infrastructure and Water Management, Netherlands
- **Jelena Knezevic**, Monitoring and Assessment Officer, UN Environment/ Mediterranean Action Plan
- **Jacques Populus**, Ifremer, France

15:30 – 16:00 COFFEE BREAK RIVERSIDE

SESSION 5 - FUTURE TRENDS IN A GLOBAL CONTEXT

 AUDITORIUM

16:00-17:15 PRESENTATIONS

Introduction by session chair

Toste Tanhua, Senior Scientist, GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany

Experiences from efforts to develop a new integrated observing system linking different basins in Canada (CIOOS)

Andrew Stewart, Manager, Ocean Observation and Monitoring, Department of Fisheries and Oceans (DFO), Canada

Overviews of Chinese observation activities

Xu Shanshan, Marine Forecast and Disaster Mitigation Division, National Marine Data and Information Service (NMDIS), China

Observing the oceans: challenges for our human future

Karen Wiltshire, Vice-Director of Alfred Wegener Institute for Polar and Marine Research and Head of Biological Station Helgoland and Wadden Sea Station Sylt, Germany

Future trends in ocean observing and monitoring: new scientific and technological developments

João Borges de Sousa, Head of Underwater Systems and Technology Laboratory, University of Porto, Portugal

17:15-18:45 BREAKOUT SESSION

 AUDITORIUM AND RIVERSIDE

Breakout discussions in groups covering conference topics:

- Regional ecosystem monitoring and observation efforts: from variables to indicators;
- Future trends in a global context;
- Integrated ocean observing platforms.

19:00 - 21:00 **CONFERENCE RECEPTION
AND BUFFET DINNER** 📍 RIVERSIDE

19:00 - 19:30 **POSTER SESSION 2 - CONNECTING THE DOTS FOR EOOS**

Poster pitch presentations covering conference themes:

- *Regional ocean monitoring efforts;*
- *Future look at the next generation of observing and monitoring tools and approaches;*
- *EOOS Sustainability, future priorities and next steps;*
- *Citizen Science for observation and monitoring;*
- *Ocean observation and human health: Monitoring needs and benefits.*

19:30 - 21:00 **DINNER WITH PRESENTATION**

“Sailing yachts as ocean observing platforms
- experience from the Volvo Ocean Race”

by **Toste Tanhua**, Senior Scientist, GEOMAR Helmholtz Centre for
Ocean Research Kiel, Germany

Day3

FRIDAY 23 NOVEMBER 2018

8:00-8:30 REGISTRATION

8:30-8:50 WAKE UP TALK  AUDITORIUM

Strengthening science based, multidisciplinary and integrated approaches to ocean observation and open data in Europe

Joaquín Tintoré, *Director, ICTS SOCIB*

09:00-09:30 SUMMARY OF BREAKOUT DISCUSSIONS DAY 2  AUDITORIUM

David Rose, *Conference Facilitator*

09:30-10:30 **SESSION 6 – OPEN PANEL DISCUSSION ON SUSTAINABILITY, PLANNING OF ACTIVITIES, FUTURE PRIORITIES AND NEXT STEPS**

 AUDITORIUM

Moderator: **George Petihakis**, *Research Director, Hellenic Centre for Marine Research HCMR*

Panelists:

- **Mathieu Belbeoch**, *JCOMM Observing Program Support Centre (JCOMMOPS) Lead*
- **Catherine Boyen**, *Research Director, Biological Station Roscoff, France; Euromarine Scientific Coordinator*
- **Tammo Bult**, *President, The European Fisheries and Aquaculture Research Organisation EFARO*
- **Laurent Louvart**, *Director of the International Office, French Hydrographic and Oceanographic Service SHOM*
- **Pier-Francesco Moretti**, *Scientific Officer at the Liaison Office in Brussels - European and International Relations, Italian Research Council CNR*
- **Koen Verbruggen**, *Director, Geological Survey Ireland*
- **Werner L. Kutsch**, *Director General, ICOS ERIC; Coordinator of the ENVRIplus Environmental ES-FRIs cluster*

10:30-11:00 COFFEE BREAK  RIVERSIDE

11:00-13:00

CLOSING SESSION

 AUDITORIUM

European Ocean Observation in the context of International Strategies and developments: the UN Sustainable Development Goals and the Decade of Ocean Science for sustainable development

Vladimir Ryabinin, *Executive Secretary of the Intergovernmental Oceanographic Commission (IOC) of UNESCO and Assistant Director-General, UNESCO*

Closing round table

How can national and European authorities contribute to the coordination of European Ocean Observation and Monitoring efforts?

Closing round table with representatives from European and national authorities, organisations and networks to consider what is already done and what could be further improved at national, regional and European level to strengthen the efficiency and coordination of ocean and coastal observation and monitoring efforts.

Round table participants:

- **Bernhard Friess**, *Director Maritime Policy and Blue Economy of the European Commission's Directorate-General for Maritime Affairs and Fisheries DG MARE*
- **Jacky Wood**, *Acting Executive Director, Joint Programming Initiative Oceans*
- **Jan Busstra**, *Marine Director, Ministry of Infrastructure, Public Works and Water Management Netherlands*
- **Marco Weydert**, *Policy Officer, European Commission Directorate-General for Research and Innovation DG RTD*
- **Slawomir Sagan**, *Institute of Oceanology PAS, Poland*
- **Giovanni De Santi**, *Director Sustainable Resources, Joint Research Centre JRC*

Conference conclusions and closing

- Conference conclusions and main messages
- Closing remarks by **Karmenu Vella**, *European Commissioner for Environment, Maritime Affairs and Fisheries*

13:00-14:00

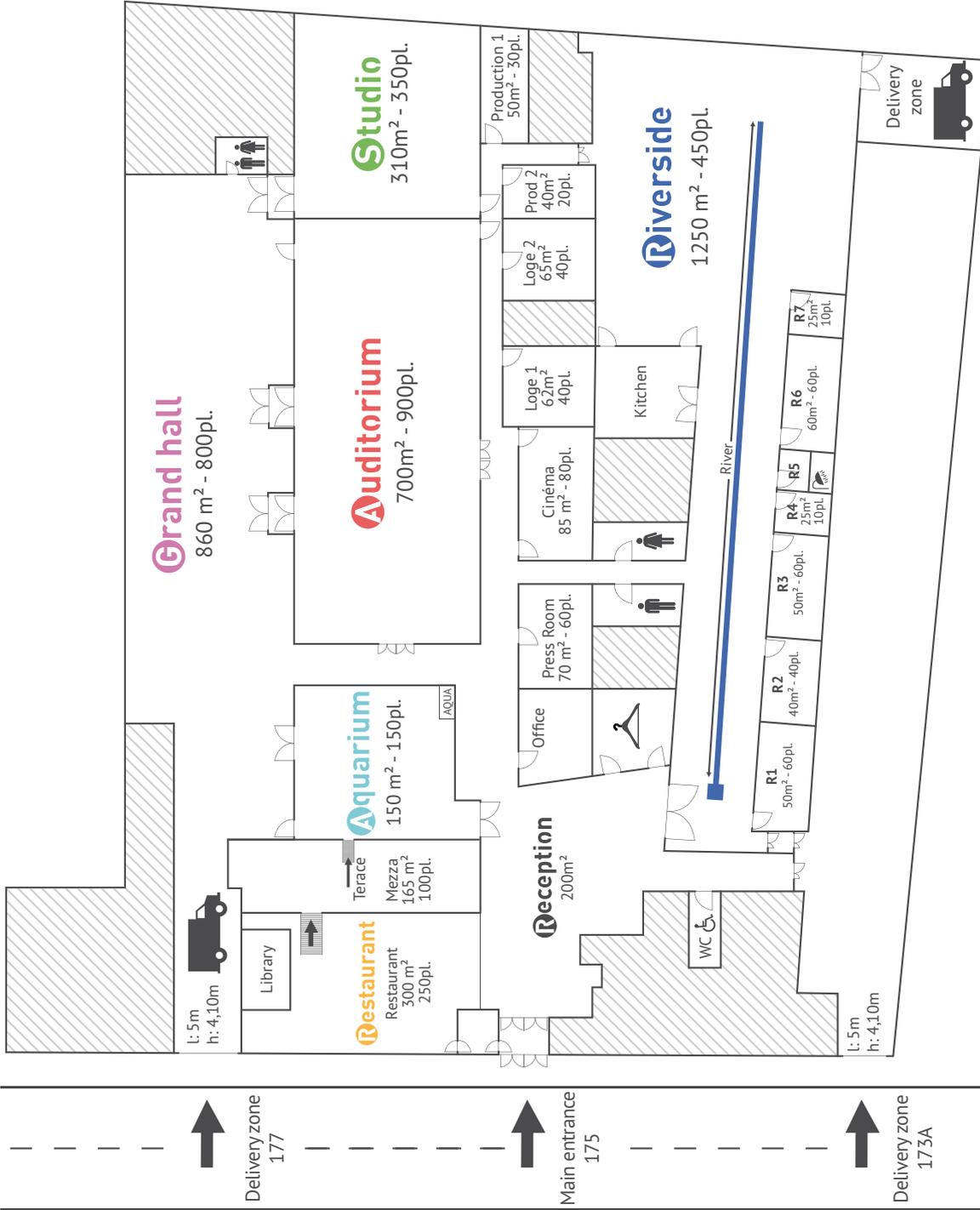
LUNCH



RIVERSIDE

END

Floor Plan





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