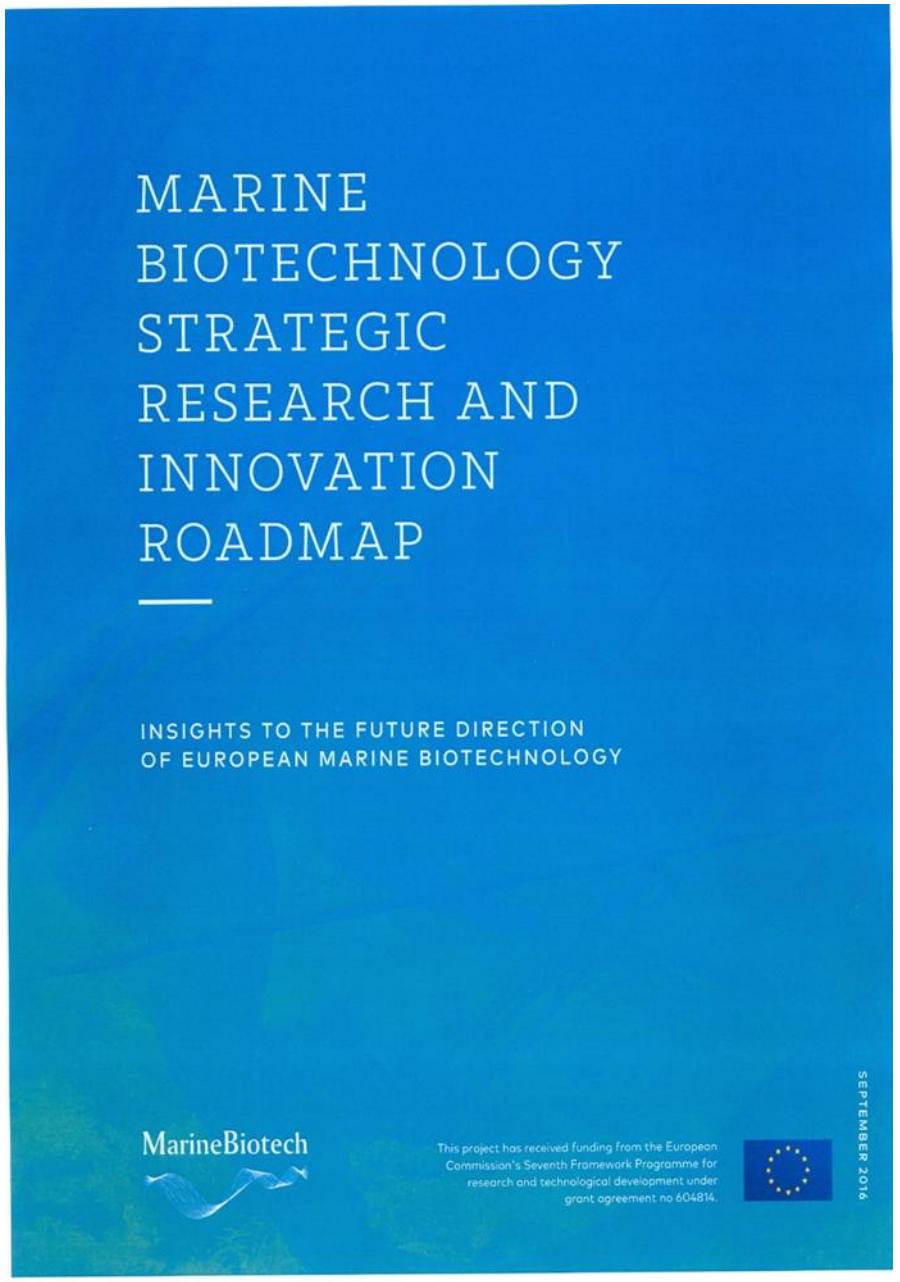
What the roadmap will mean in the research community

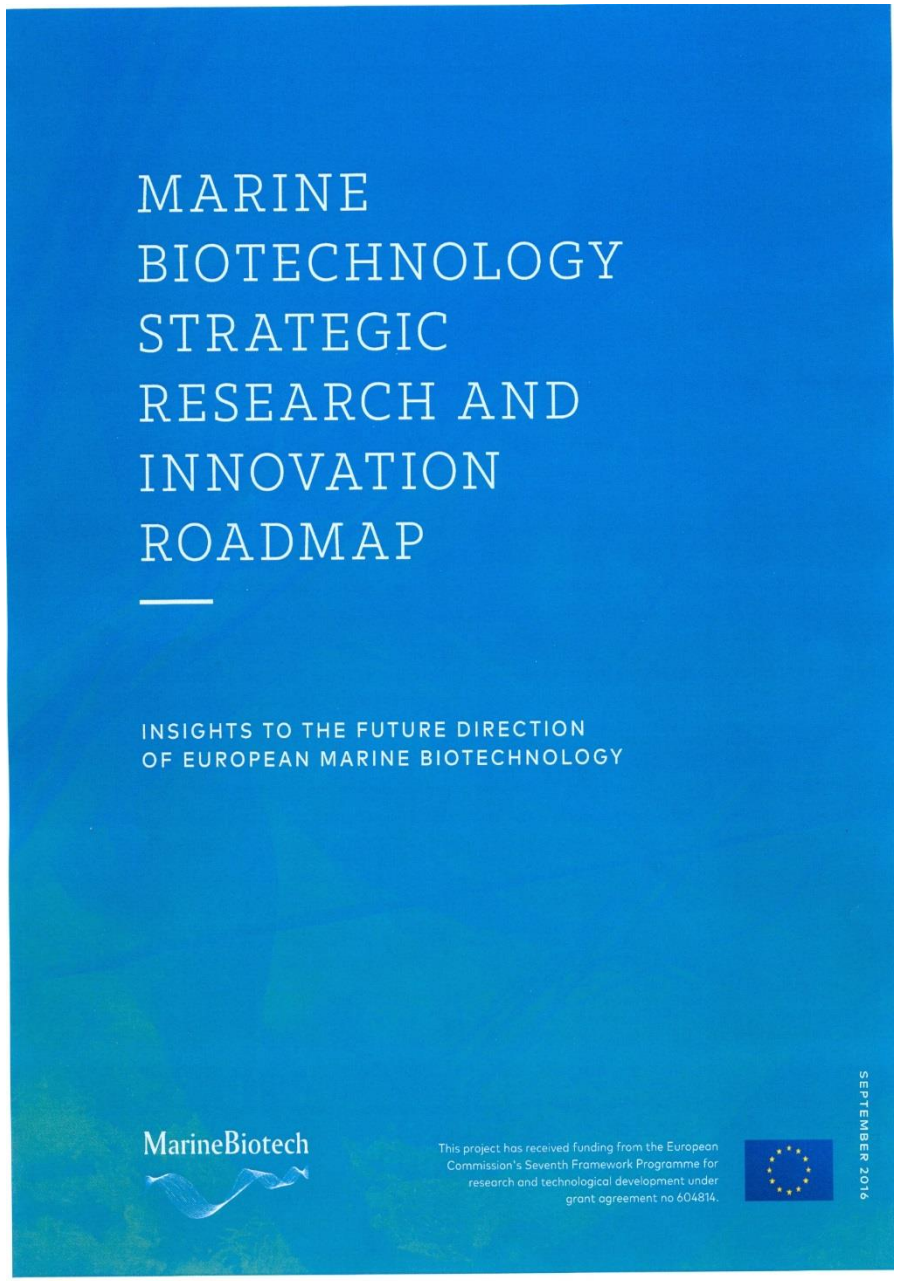
Alan Dobson, University College Cork, Ireland

Marine Biotechnology roadmap launch, Brussels
October 12th, 2016.



As Rachael Ritchie says in her preface to the Roadmap document

" It is clear that the marine biotechnology roadmap provides a framework for future marine biotechnology research and innovation activities."



The global market for Marine Biotechnology has the potential to reach €4.8 billion by 2020, rising to €6.4 billion by 2025.

In this respect major opportunities exist to expand our current use of ocean derived bioresources in markets for:
Cosmetics,
Functional foods,
Agricultural products,
Industrial enzymes
and Pharmaceuticals.

In line with Horizon 2020, the roadmap highlights research areas that span SCIENTIFIC, TECHNOLOGICAL, ECONOMIC and SOCIETAL challenges.

In doing this it sets out a Marine Biotechnology Research and Innovation agenda to 2030, with FIVE thematic areas being identified.

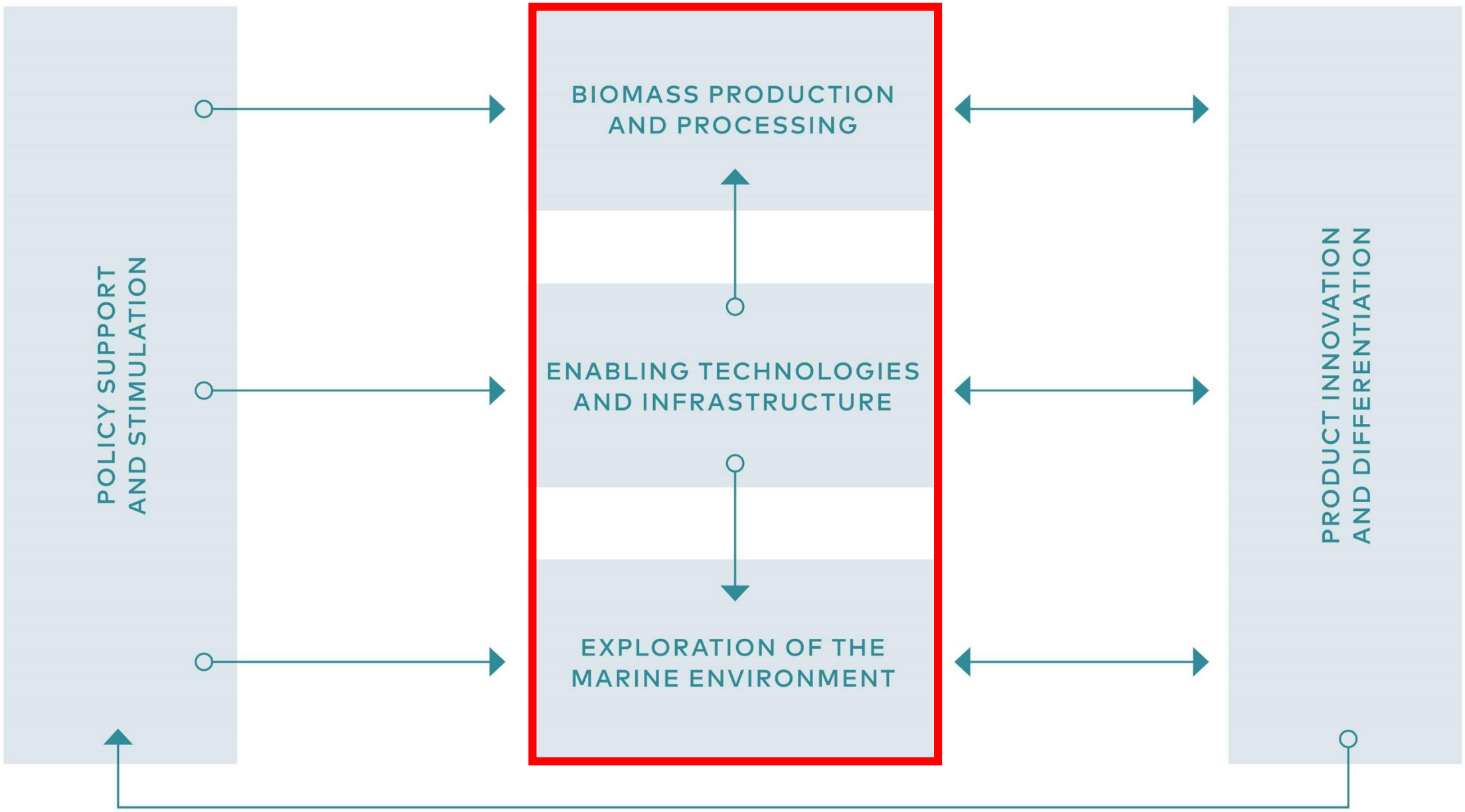


Figure 2. The five thematic areas of the strategic research and innovation roadmap. (MBSRIR)

Exploration of the Marine Environment

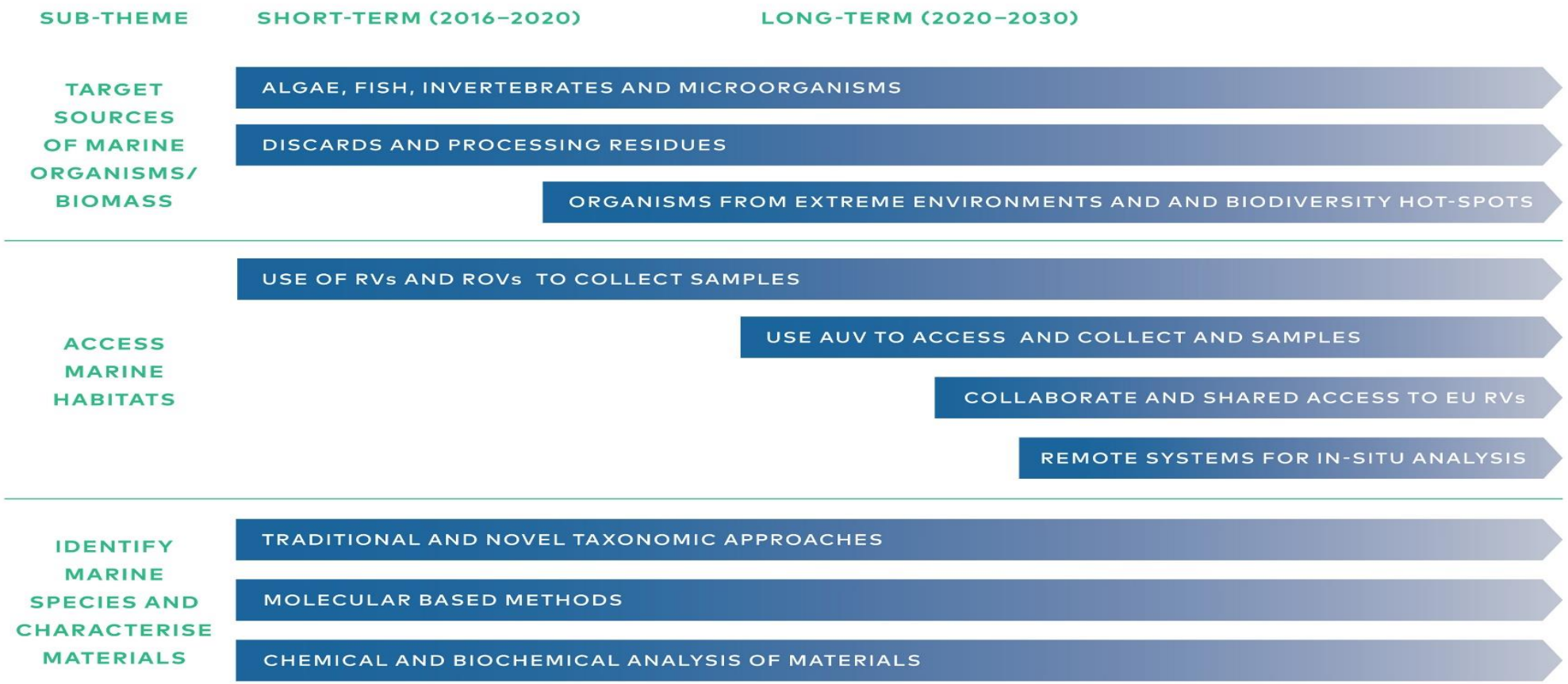


Figure 4. Exploration of the marine environment. (MBSRIR)

Biomass Production and Processing

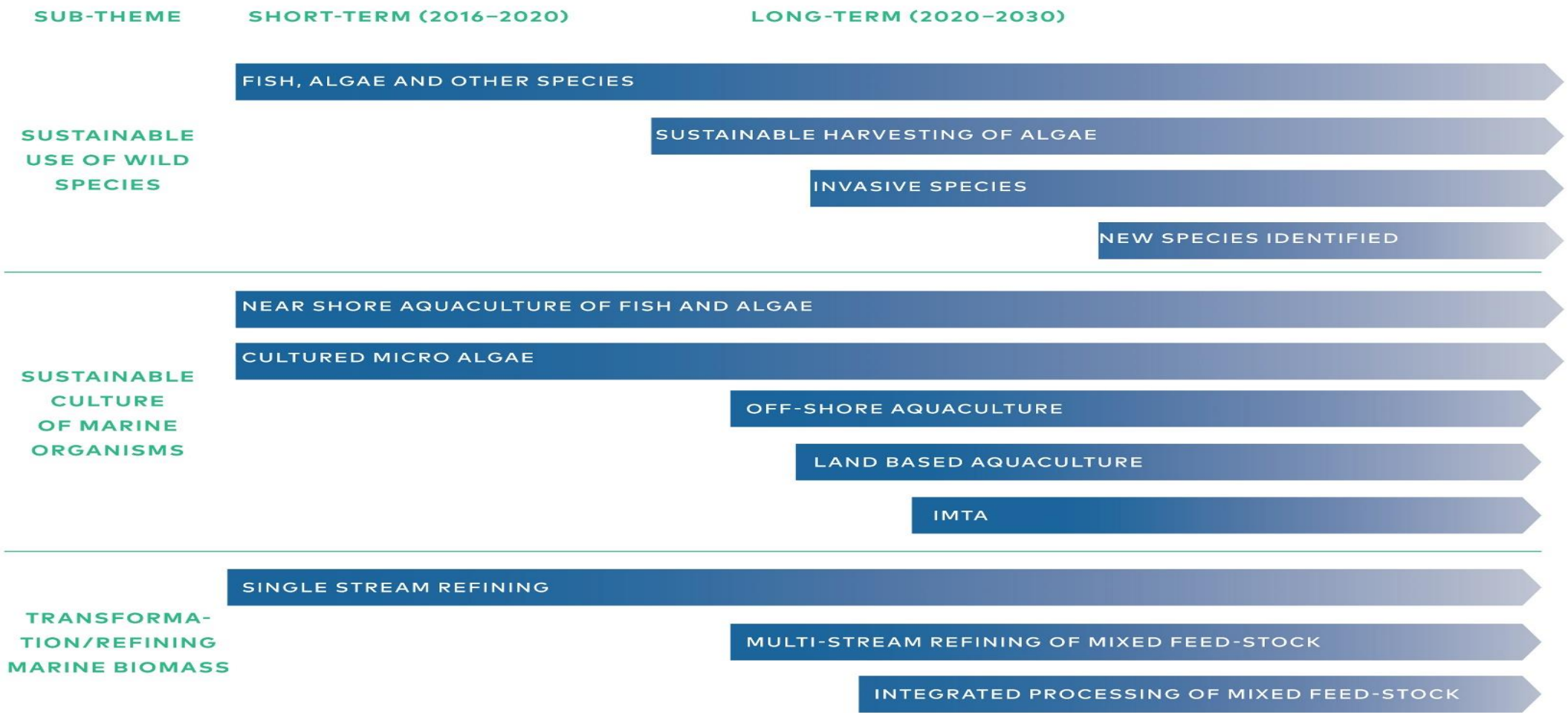


Figure 5 Biomass production and processing. (MBSRIR)

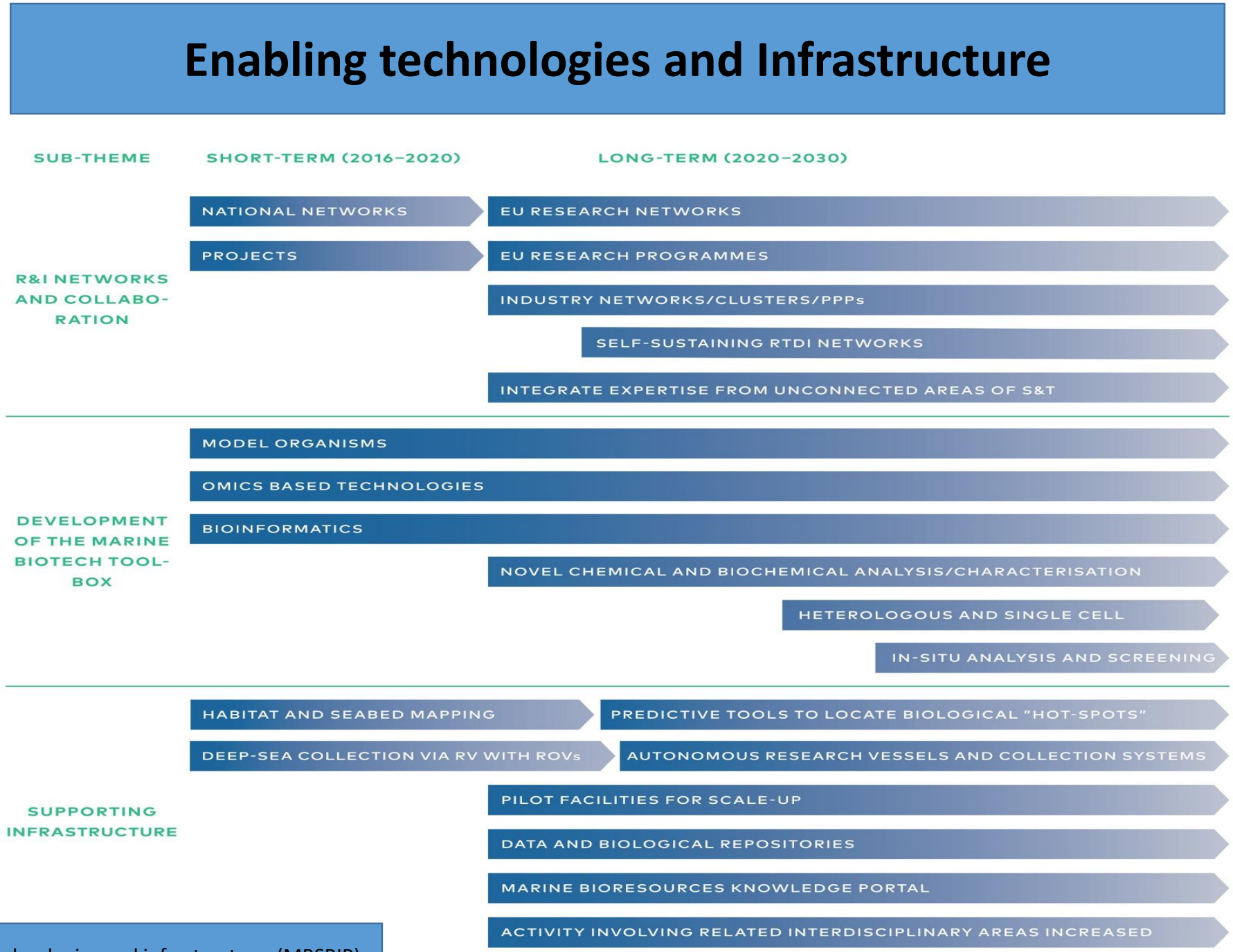


Figure 7 Enabling technologies and infrastructure. (MBSRIR)

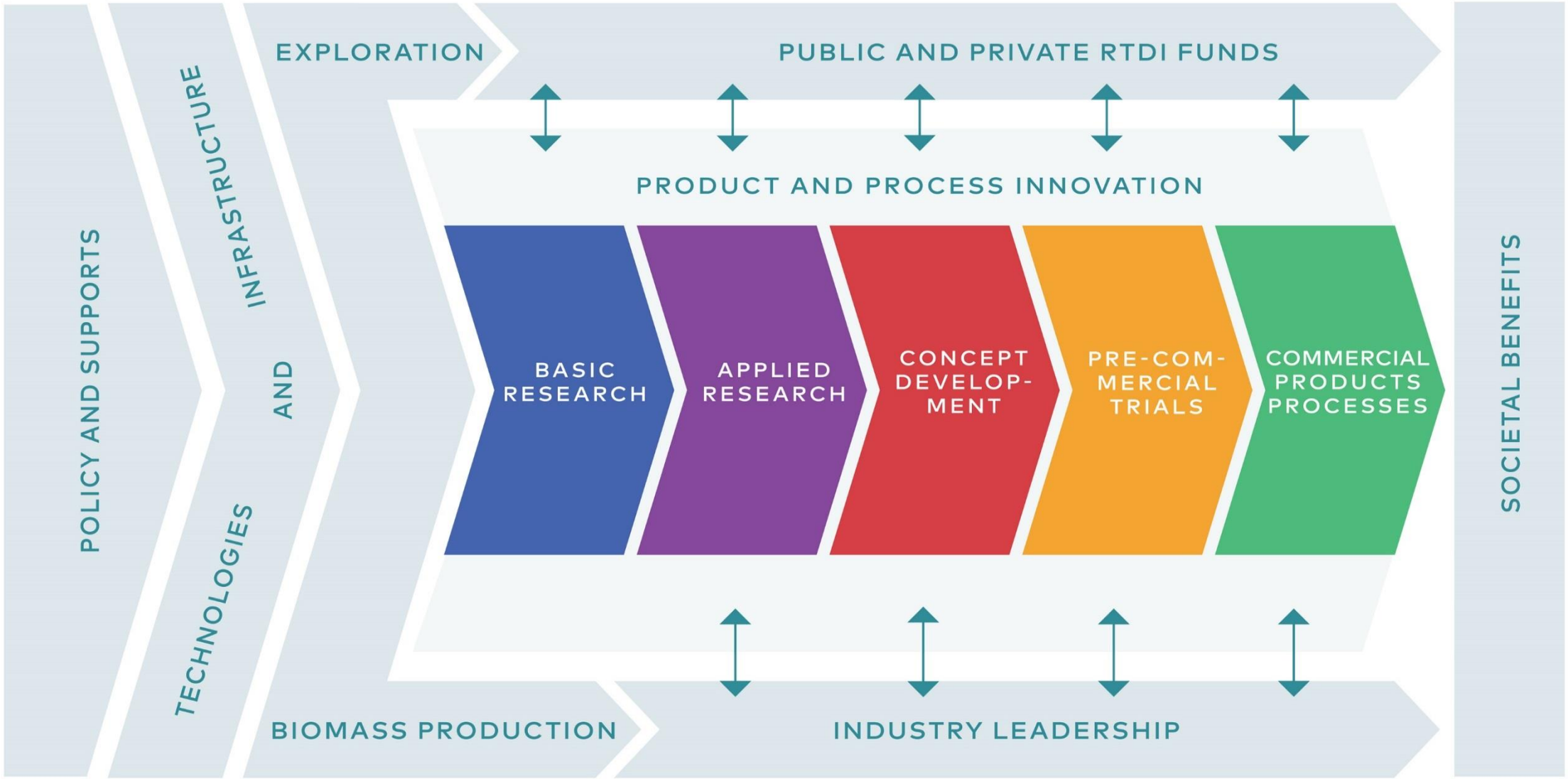


Figure 3. Connecting the research areas to support the delivery of value and benefits to society. (MBSRIR)

CONCLUSIONS

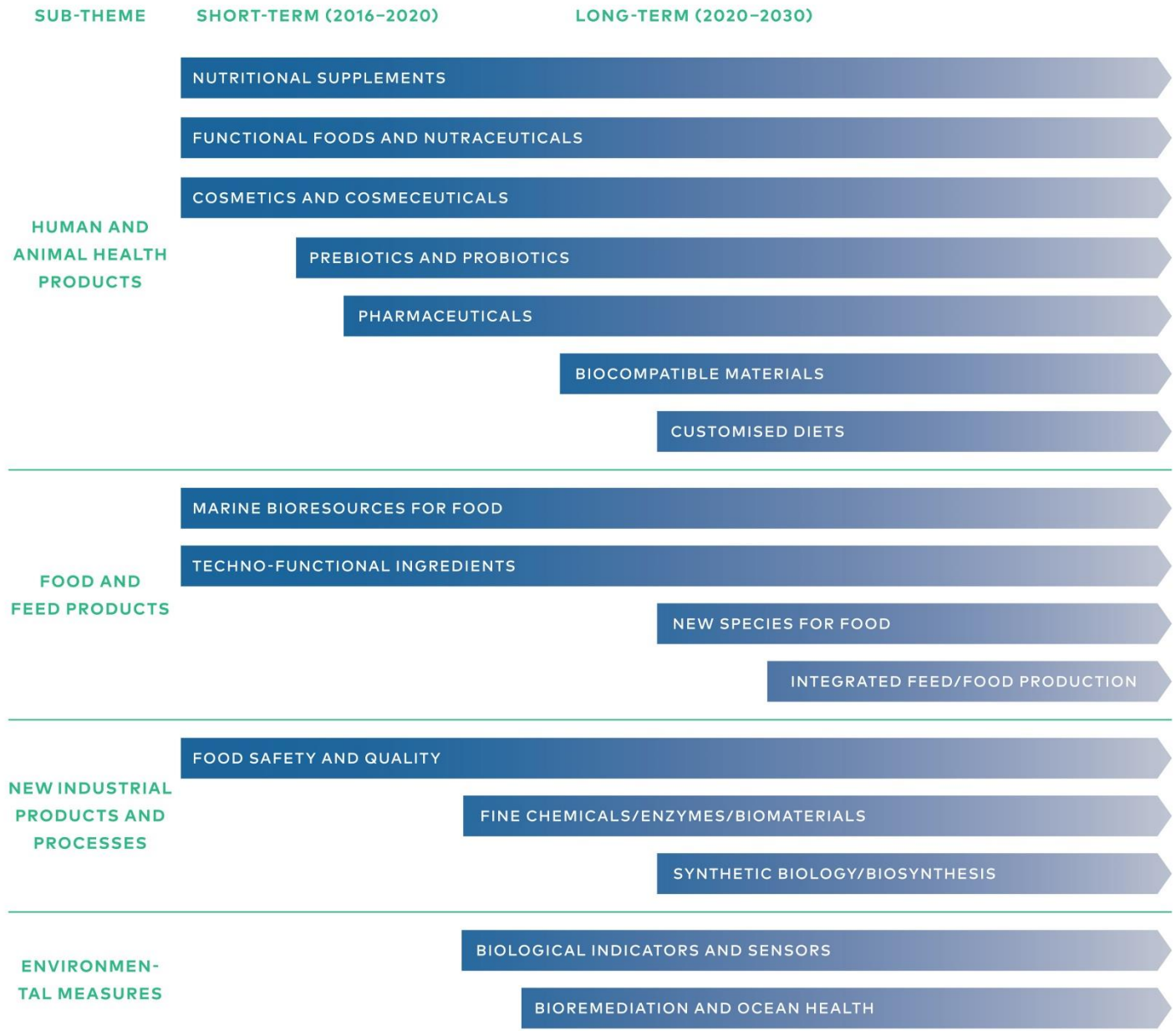
We now have framework where scientists can:-

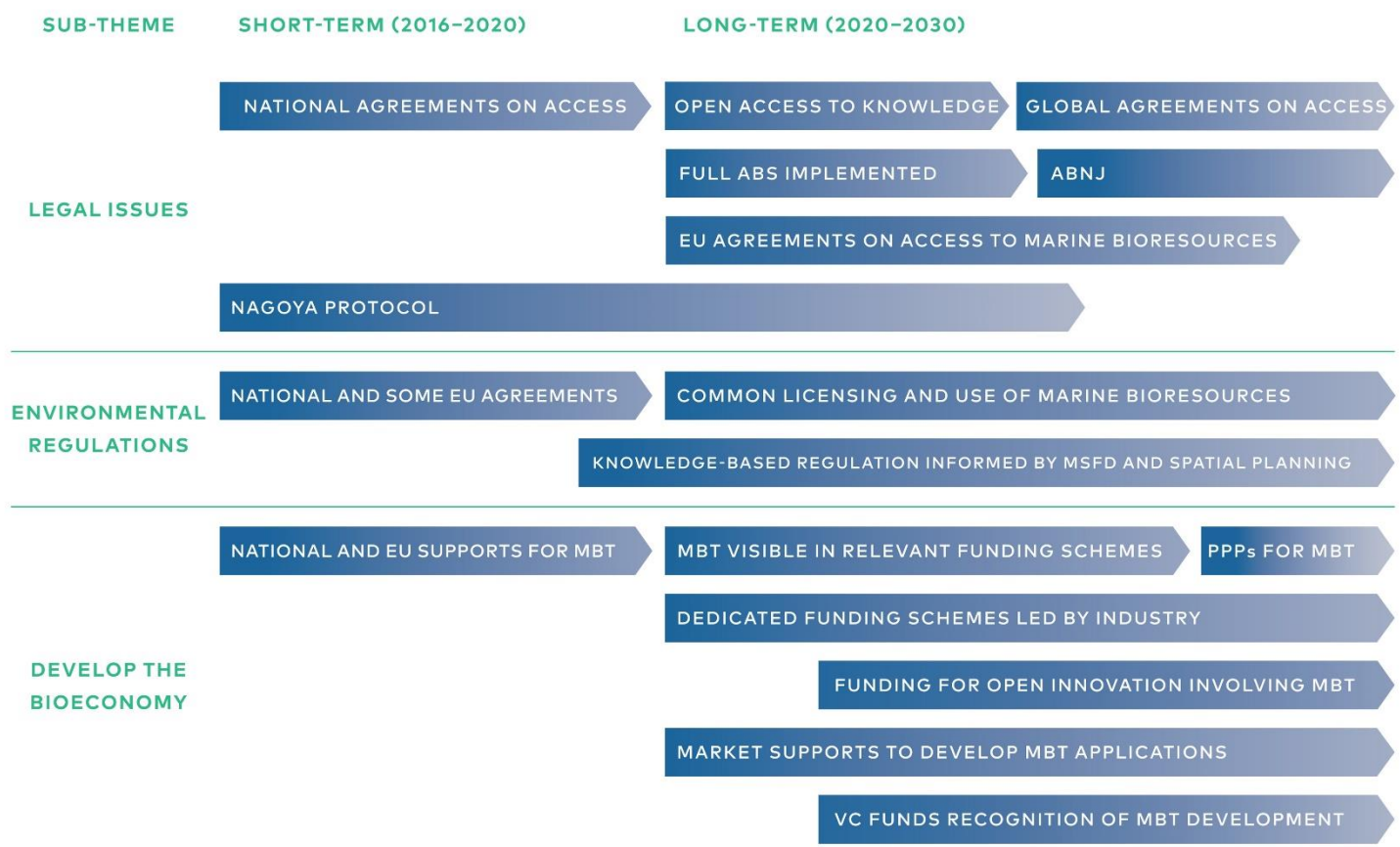
A) link the relevance of their work within the overall Marine Biotechnology value chain

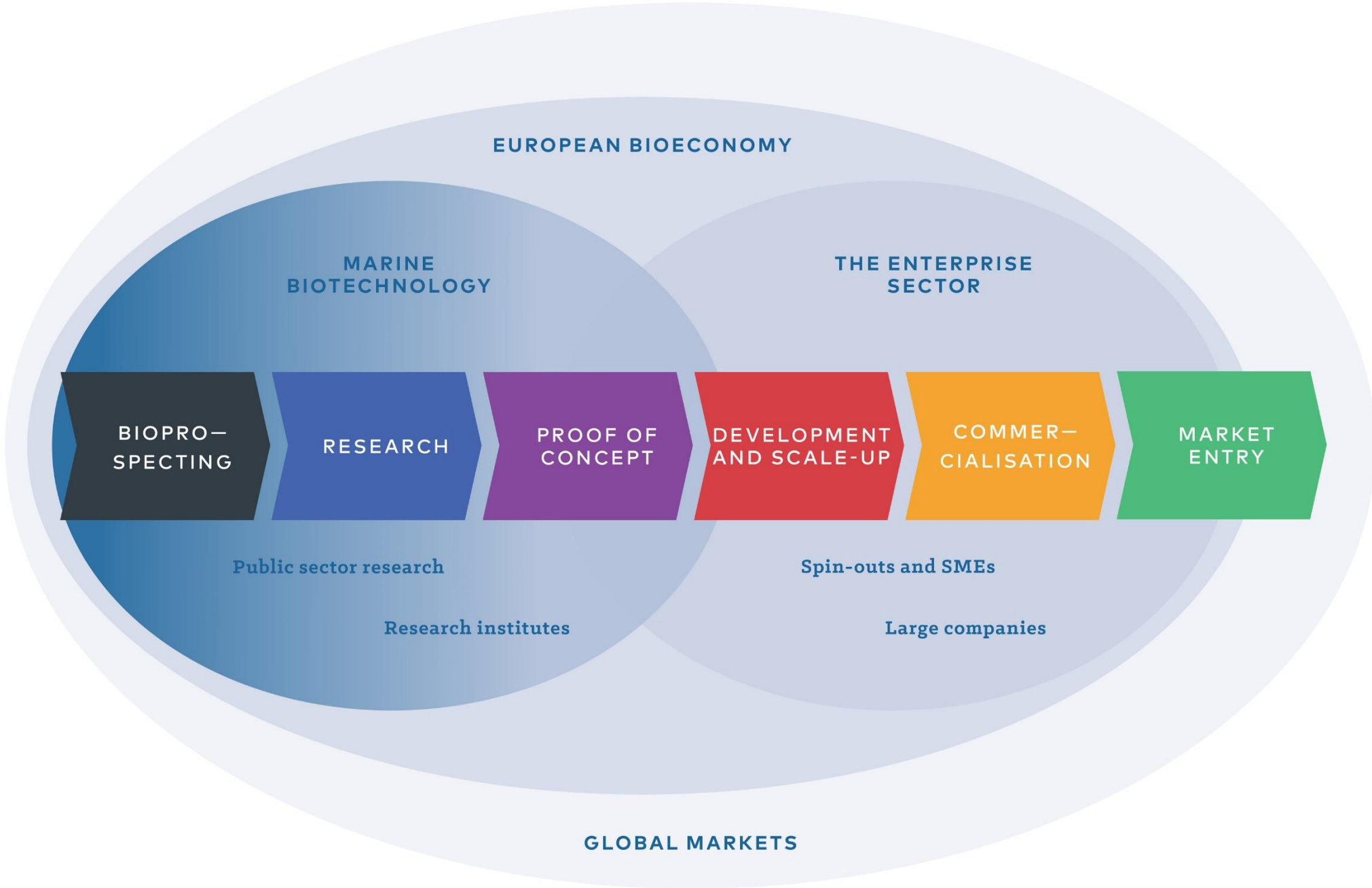
B) Help develop important relevant new competencies for future researchers

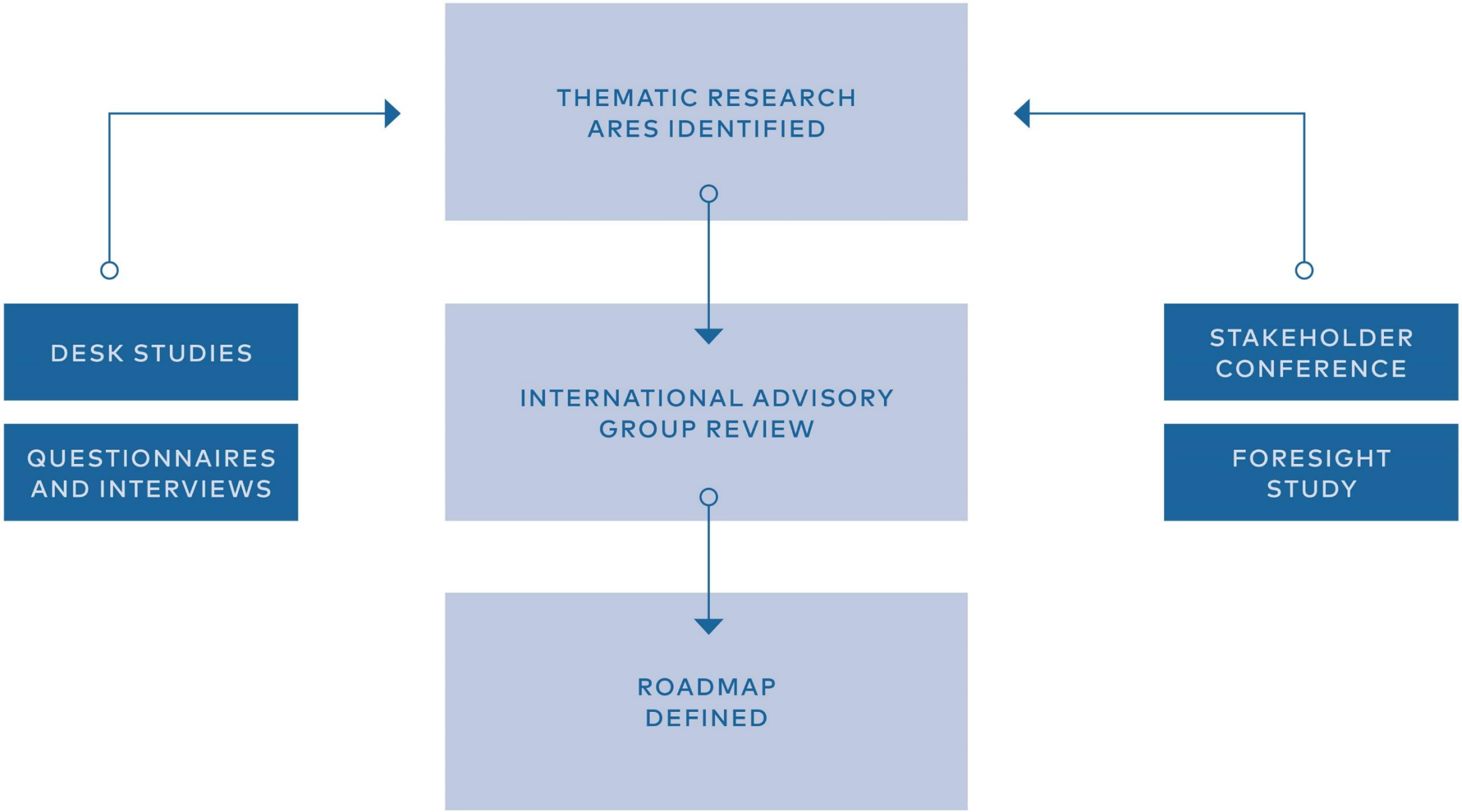
C) Support the development of both their own National and the European Bioeconomy

While addressing the societal challenges of:
Health,
Food Security,
Demographic change and wellbeing,
Supply of raw materials.


SUB-THEME
SHORT-TERM (2016–2020)
LONG-TERM (2020–2030)
HUMAN AND ANIMAL HEALTH PRODUCTS
NUTRITIONAL SUPPLEMENTS
FUNCTIONAL FOODS AND NUTRACEUTICALS
COSMETICS AND COSMECEUTICALS
PREBIOTICS AND PROBIOTICS
PHARMACEUTICALS
BIOCOMPATIBLE MATERIALS
CUSTOMISED DIETS
FOOD AND FEED PRODUCTS
MARINE BIORESOURCES FOR FOOD
TECHNO-FUNCTIONAL INGREDIENTS
NEW SPECIES FOR FOOD
INTEGRATED FEED/FOOD PRODUCTION
NEW INDUSTRIAL PRODUCTS AND PROCESSES
FOOD SAFETY AND QUALITY
FINE CHEMICALS/ENZYMES/BIOMATERIALS
SYNTHETIC BIOLOGY/BIOSYNTHESIS
ENVIRONMEN-TAL MEASURES
BIOLOGICAL INDICATORS AND SENSORS
BIOREMEDIATION AND OCEAN HEALTH


SUB-THEME
SHORT-TERM (2016–2020)
LONG-TERM (2020–2030)
LEGAL ISSUES
NATIONAL AGREEMENTS ON ACCESS
OPEN ACCESS TO KNOWLEDGE
GLOBAL AGREEMENTS ON ACCESS
FULL ABS IMPLEMENTED
ABNJ
EU AGREEMENTS ON ACCESS TO MARINE BIORESOURCES
NAGOYA PROTOCOL
ENVIRONMENTAL REGULATIONS
NATIONAL AND SOME EU AGREEMENTS
COMMON LICENSING AND USE OF MARINE BIORESOURCES
KNOWLEDGE-BASED REGULATION INFORMED BY MSFD AND SPATIAL PLANNING
DEVELOP THE BIOECONOMY
NATIONAL AND EU SUPPORTS FOR MBT
MBT VISIBLE IN RELEVANT FUNDING SCHEMES
PPPs FOR MBT
DEDICATED FUNDING SCHEMES LED BY INDUSTRY
FUNDING FOR OPEN INNOVATION INVOLVING MBT
MARKET SUPPORTS TO DEVELOP MBT APPLICATIONS
VC FUNDS RECOGNITION OF MBT DEVELOPMENT


EUROPEAN BIOECONOMY
MARINE BIOTECHNOLOGY
THE ENTERPRISE SECTOR
BIOPRO—SPECTING
RESEARCH
PROOF OF CONCEPT
DEVELOPMENT AND SCALE-UP
COMMER—CIALISATION
MARKET ENTRY
Public sector research
Research institutes
Spin-outs and SMEs
Large companies
GLOBAL MARKETS


THEMATIC RESEARCH ARES IDENTIFIED
DESK STUDIES
QUESTIONNAIRES AND INTERVIEWS
INTERNATIONAL ADVISORY GROUP REVIEW
STAKEHOLDER CONFERENCE
FORESIGHT STUDY
ROADMAP DEFINED