Supporting, driving & building large mission driven initiatives: Perspectives from Aalborg University, Denmark

Aalborg University (AAU), Denmark

Niels Bech Lukassen
Head of Mission Unit, PhD
AAU

A mission-oriented university

Our deep expertise, comprehensive interdisciplinary approach, and proactive societal engagement provide us with unique opportunities to work with complex challenges.

Together with our surrounding community, we define and participate in missions that contribute to solving these challenges.

These missions should be the driving force behind our actions. In short, AAU is a mission-driven university.

My background & AAU

Niels Bech Lukassen

Head of Mission Unit
PhD in Educational Psychology

Previous employments:
Investment Manager, Innovation Fund Denmark
Chief Consultant, Danish municipality
Associative Professor, University College

AAU Facts
+17.700 full time students
+ 3.500 researchers & administrative staff
4 faculties
+800 PhD students
Missiondriven University
Problem based University
Located in Aalborg, Copenhagen & Esbjerg
Strategy – Knowledge for the World

JOINING FORCES FOR
MISSIONS

AGENDA

Topics in mixed order:

Why we are a mission-oriented university

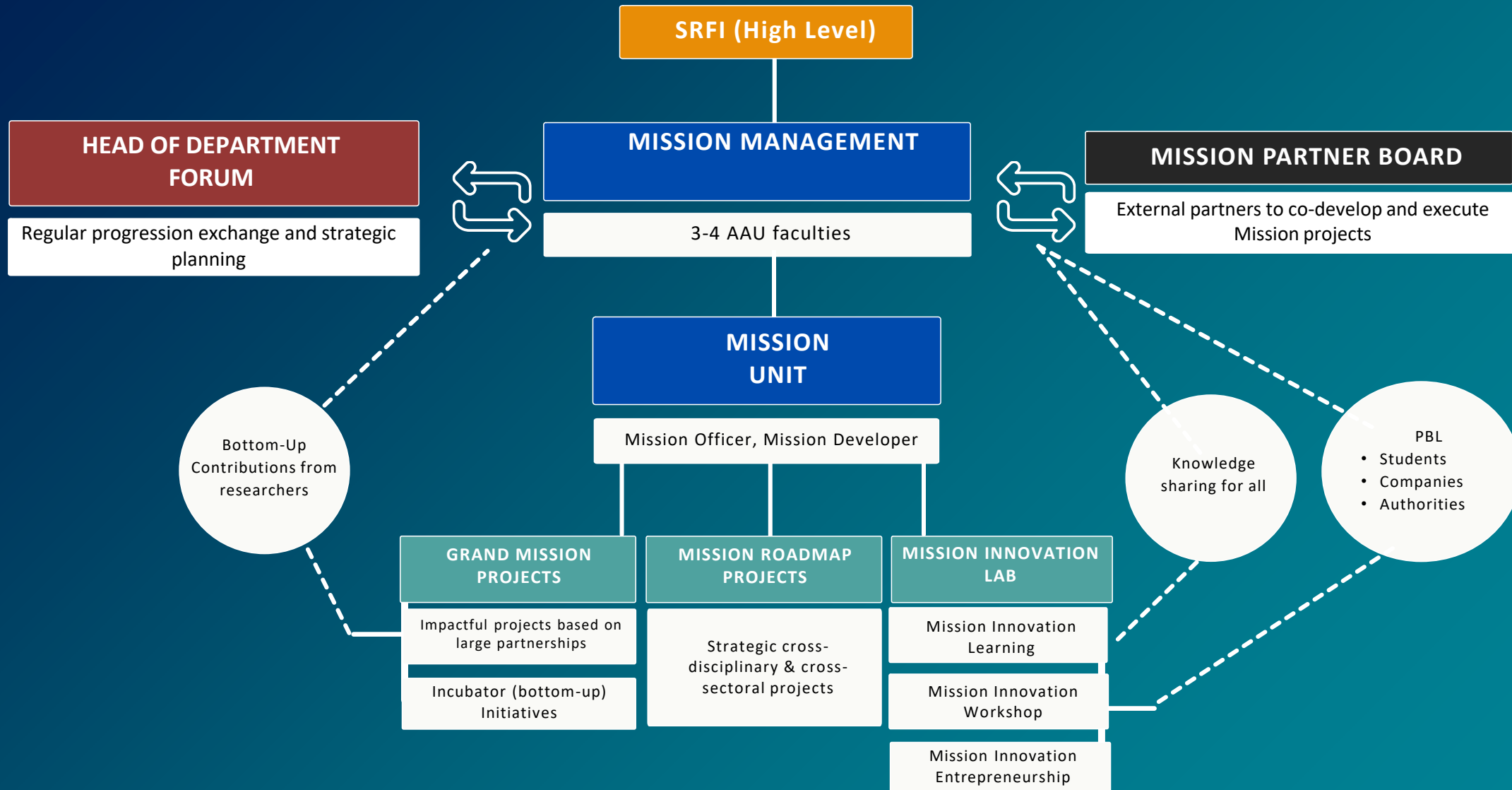**What is a Mission Unit? Mandate?**

What's in it for me?

Which missions do we have?

How we govern and drive missions

QUESTIONS and dialogue

MISSION MANDATE

What is a mission?

"We believe that knowledge can and must change the world."

"Therefore, AAU is a university with ambitions that extend far beyond its walls to the heart of the most pressing global and local trouble spots (...).

*"We **define and take part in missions** that help solve those challenges."*

AAU Board of Governors 2022

- Bold, inspiring with broad societal relevance

- Targeted, measurable, and time-bound

- Actions should be ambitious and realistic regarding research and innovation

- Interdisciplinary, cross-sector innovation across stakeholders

- Encouraging bottom-up solutions

- Realistic opportunity to obtain external funding to support these

What is a Mission Unit?
What do we do?

Data collection & analysis – Mission Dashboard

Learning activities, workshops, conferences etc.

Developing mission roadmap

Partnership building – Quadrouble Helix

Strategic funding activities
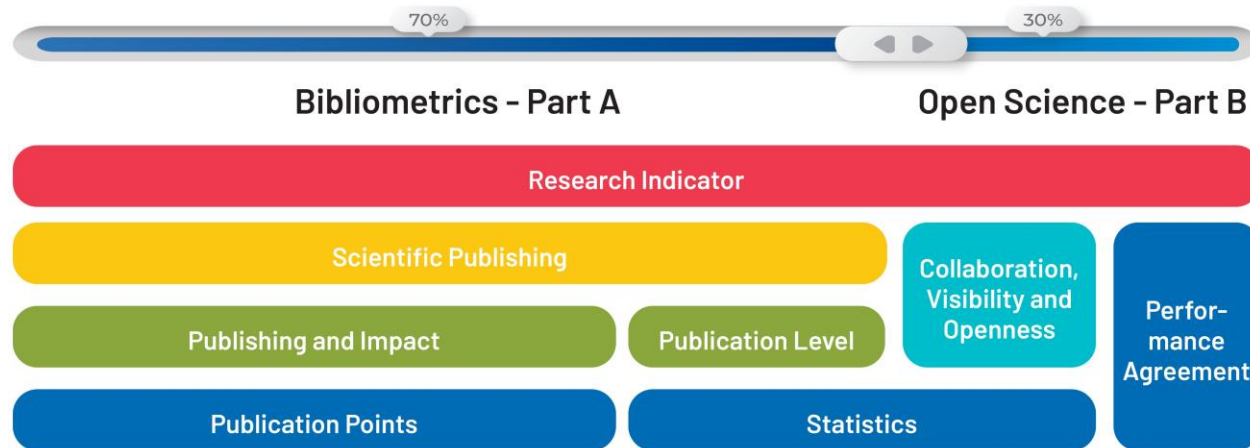
Managing Mission Partner Boards

Research indicator – 70 % (BFI) + 30 %

Working closely with Mission Management, AAU top

management and the entire AAU

In the Mission Unit, our task is to connect the dots, engage in professional dialogue with researchers and decision-makers, ensure process management and portfolio management, and involve AAU's departments as well as external partners in each of the three missions.

We aim to facilitate connections between the outside world and our researchers

www.missions.aau.dk

AAU Research Indicator

70%   30%

Bibliometrics - Part A   **Open Science - Part B**

Research Indicator

Scientific Publishing

Collaboration, Visibility and Openness

Perfor-mance Agreement

Publishing and Impact   Publication Level

Publication Points   Statistics

Conclusion:
Part A = subject neutral and applied directly to support internal distribution of basic research funding

Part B = developed to showcase subject specific research strategies at the department level

What's in it for me?

Example health mission

SAMMEN OM MISSIONER

Stakeholder Group	Collaboration	Career Development	Real-World Impact
Young Researchers (PhD, Postdoc, Assistant Prof.)	Collaborate with experienced researchers across faculties	Mentorship, training, and leadership skill-building	Contribute to technology-driven solutions for societal challenges
Senior Researchers (Associate and Full Prof., Deans)	Lead interdisciplinary teams on impactful projects	Opportunities to mentor others and lead key initiatives	Shape legacy through societal-scale research solutions
Students	Participate in cross-faculty projects	Develop interdisciplinary and collaborative skills	Apply learning to real-world interdisciplinary challenges
Patients	Contribute insights on care needs and experiences	Empowerment through patient-centered initiatives	Improve quality of care and health outcomes
Clinicians	Collaborate with researchers to influence solutions	Access to tools for professional growth and decision-making	Develop tools to streamline clinical workflows
Leaders in Healthcare System	Coordinate with policymakers and researchers	Leadership opportunities in health reform efforts	Drive systemic healthcare improvements
Governmental Organizations	Co-develop strategies with stakeholders	Support policy-focused career development	Achieve measurable societal outcomes
Non-Governmental Organizations	Partner in advocacy and collaboration	Empower leaders in NGOs with strategic roles	Address global health equity challenges
Industry	Public-private partnerships to develop scalable solutions	Access to innovation hubs and funding opportunities	Develop and market globally scalable solutions
Foundations	Collaborate with researchers to fund impactful work	Support long-term mission-aligned research initiatives	Support transformational research aligned with global goals

SHIFTING ROLE OF UNIVERSITIES

Traditional Research-Based Innovation	Mission-Research Based Innovation
We develop towards the future	We place ourselves in the future
Project-based	Projectportfolio-based
Funding competition	Funding collaboration
Governance is an expense	Governance is an investment
Siloed project learning	Cross-project learning
People with ideas for specific solutions	People committed to the mission, not a singular solution
Internal innovation teams	Cross-disciplinary and external teams
Innovation managers	*Mission managers*

Missionerne på Aalborg Universitet

ET BÆREDYGTIGT DANSK ENERGISYSTEM

Missionens mål er at etablere et borgerinddragende, modstandsdygtigt og bæredygtigt dansk energisystem inden 2045.

missionbæredygtigenergi.aau.dk ›

ØGET TRIVSEL BLANDT BØRN OG UNGE I DANMARK

Missionens mål er at øge den fysiske, psykiske og sociale trivsel blandt børn og unge i Danmark inden 2040.

missionbørnogungestrivsel.aau.dk ›
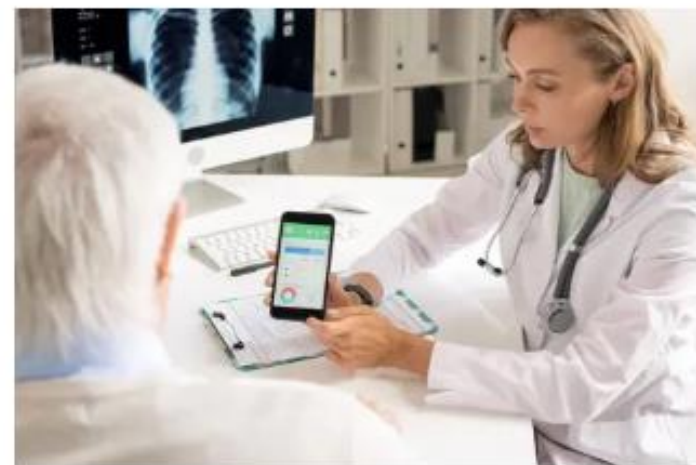
ØGET SUNDHED GENNEM SAMMENHÆNG OG INDIVIDUALISERING

Missionens mål er at øge sundheden for patienterne gennem teknologiunderstøttende og sammenhængende forløb, målrettet den enkelte patient

Mission øget sundhed gennem sammenhæng og individualisering ›

Driving missions: Theory of change for AAU's mission work

The Missions long term goals: 2045

To increase children and youths physical, mental and social well-being
To establish a citizen-centric, resistant and renewable energysystem in Denmark
To improve patient health through technology-supported and coherent care pathways tailored to the individual

Signs of impact

The changes we can observe, when the changes starts happening - from implausible to possible!
E.g. a new technology is implemented in a real context
Reduction in unnecessary tests and hospital admissions

Inflection points

(A notable change, that has a substantial importance for the goal of the mission: Technological-, market-, regulatory-, systematic- or cultural shift)
E.g. (well-being: Regulation of screentime / digital breaks in the educational sector)
E.g. (Energy: Citizens acceptance of windmills in their community)
E.g. (Health: Digital technologies assisting patients in managing their illnesses independently in everyday life)

Possibility-inducing prerequisites

AAU leaders/Partner Boards/learning activities/engagement/interdisciplinary cooperation/intern & extern funding

Portfolio of mission projects

Key challenges

Milestones

E.g. how can we engage the industry better? Funding applicantions repatriated? New types of workshops?

Milestones

A milestone for each key challenge

Key Challenges

1. Treatment & special education
2. Learning environment
3. Digital technologies
4. Inclusive communities

1. Smart Energy Systems
2. Circular Energy System
3. Digitalization Energy
4. Carbon Management and Non-Fossil Fuels

1. Coherence
2. Individualisation
3. Self-management
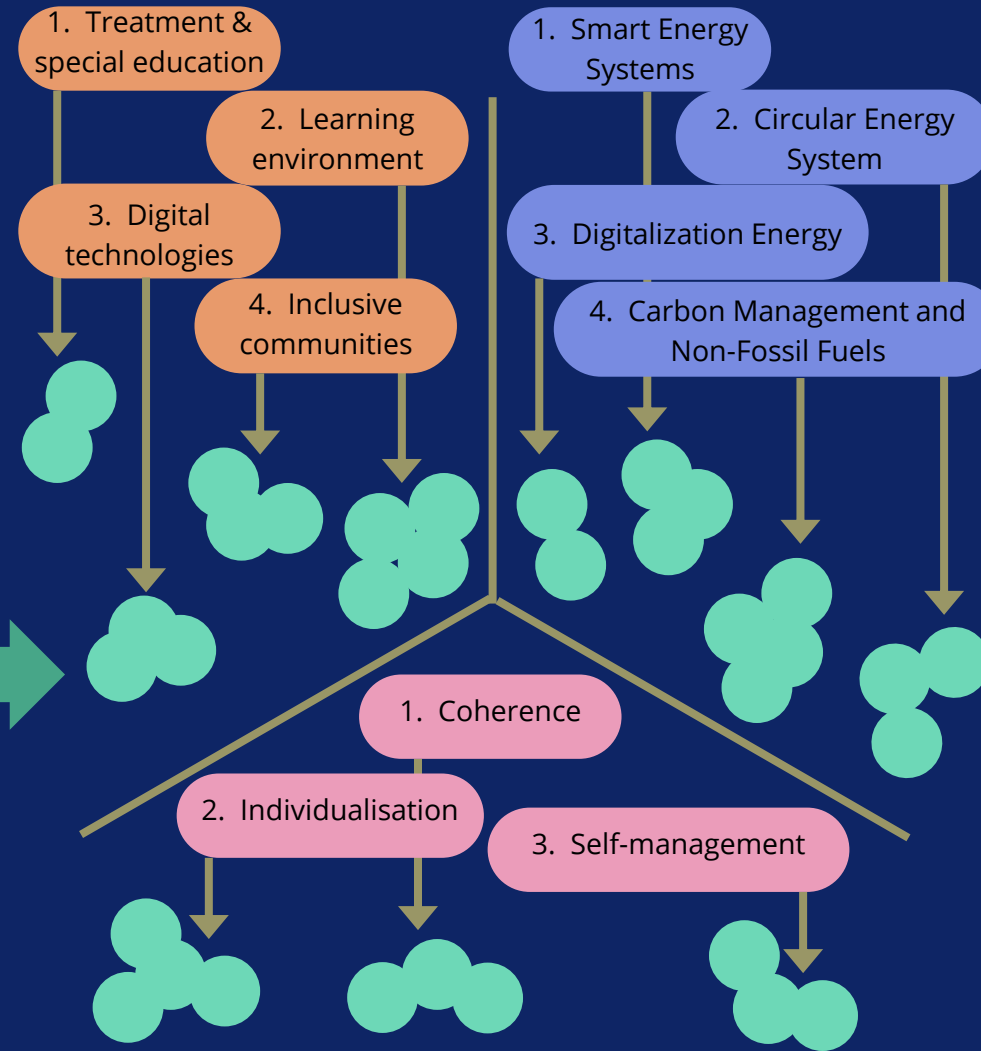
Building a learning Mission Portfolio

KEY TAKE AWAYS

- It takes courage to 'walk slowly' – wait for the ketchup effect!

- Systems change starts with behavioral change at individual level – from KPI-view to KBI-view

- "True synergies have to be found to enable scaling of initiatives; no need to 'annoy project managers'"

- Scaling 'effort' – work with a ToC
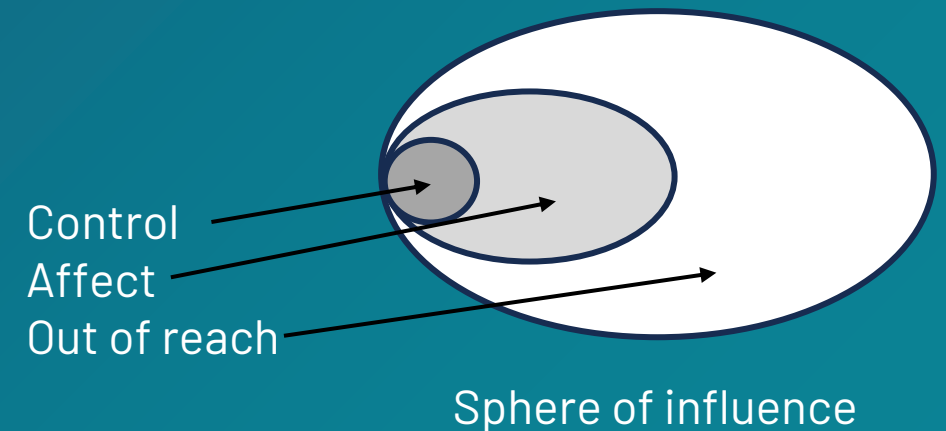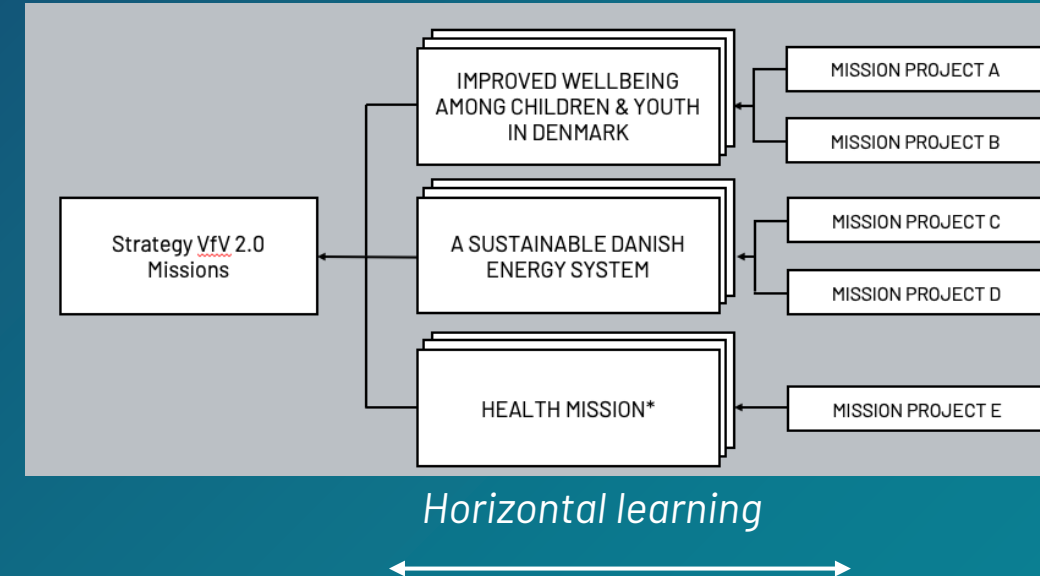
Horizontal learning

Control
Affect
Out of reach

Sphere of influence

Source: AAU Professor in Management, Jacob Brix
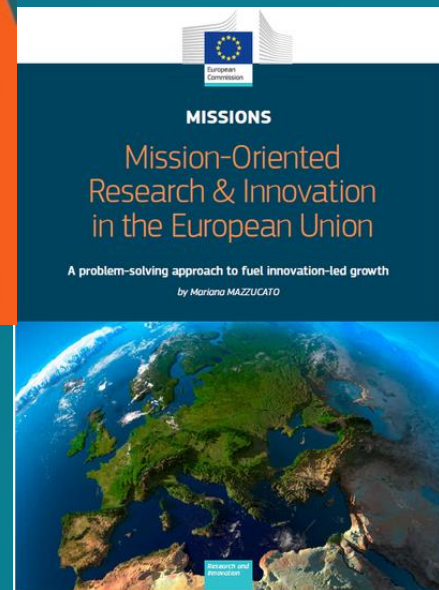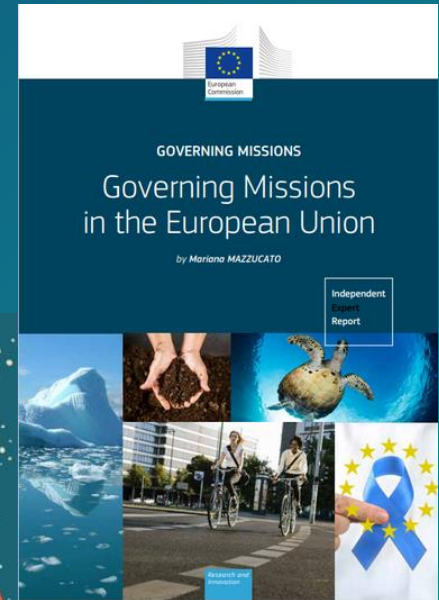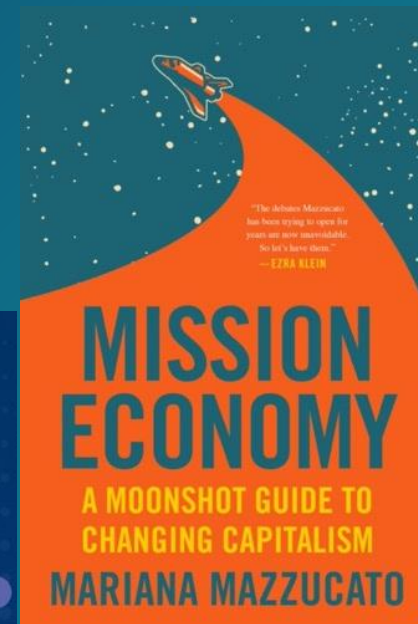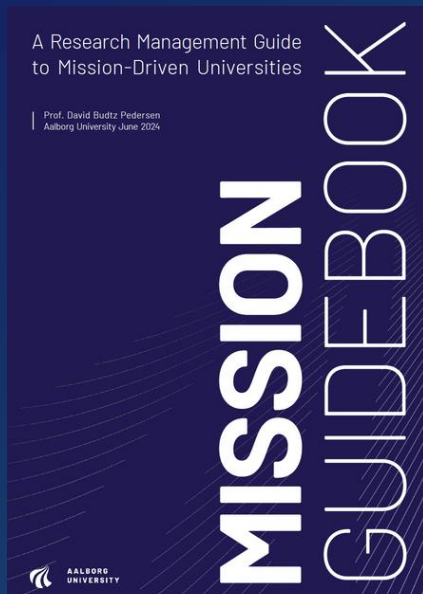
MISSION RESEARCH

HOW WE DO IT

THE GLOBAL GOALS

Grand Challenge

A strong mission unit: management, administration, researches and support systems

Portfolio of Collaborative Cross-disciplinary Mission Projects: Innovation, transformative research and best practice

Student involvement (Problem Based Learning and entrepreneurship)

Overall Mission

Mission Partner Boards

CROSS SECTORIAL CLUSTERS OF
✓ PUBLIC PARTNERS
✓ PRIVATE PARTNERS
✓ NGOs & THINK TANKS
✓ CITIZENS

Setting directions, mobilising systems and actors, building capacity

Co-creating impact & and the grounds for uptake on a national and international scale

REAL WORLD CHANGE

AALBORG UNIVERSITY

MISSION INITIATIVES

Norwegian Long-Term Plan for Research and Higher Education 2023–2032

Innnomissions Denmark

AAU Missions
Novo Nordic Foundation

Mission-oriented Innovation by VINNOVA Sweden

UK Industrial Strategy Challenge Fund

UK Research and Innovation

Japan Moonshot Research and Development Programme

Japan Science and Technology Agency

US ARPA-E Programme

EU Horizon Europe's Mission Programme

South Korean Care Robot Programme

National Rehabilitation Center

US Cancer Moonshot

Global Call on Science Missions for Sustainability

International Science Council

Netherlands' Mission-driven Top Sectors

Government of the Netherlands

German High-Tech Strategy 2025

HIGH-TECH STRATEGY 2025
Talents. Skills. Innovations.

Australian Genomics Health Futures Mission

Australian Government
Department of Health and Aged Care

Monash University Melbourne

UNIVERSITY-LED MISSION-ORIENTED RESEARCH AND INNOVATION
A framework for catalysing large-scale transdisciplinary research

Mission Unit Support – A Change Agent Approach to…

Onboarding	Ensuring all are aligned and understand the mission's background and goals	**Strategic Framework**	Alignment with other AAU mission?	**Expectations and Collaboration**	Clear expectations for collaboration among Mission Management members.
Discussion on meeting frequency and preferred formats for communication.	Clarification of roles and expectations	**Organisational and Structural Alignment**	Integration with Departments: How to establish and maintain effective links.	SRFI / Vice Dean / Dean involvement: Their roles in the mission.	External Partner board: Formation and role.
Identifying additional peripheral stakeholders for potential involvement.	**Operational Planning**	Parallel activities: Identifying actions that can progress simultaneously.	Development of a 100-day plan: Immediate priorities and milestones.	Setting short-term goals to measure progress.	**Communication Strategy**
	Creating internal and external identity and communication strategy for the mission.	**Timeline and Budget**	Establishing a timeline for key milestones.	Reviewing and aligning the budget to mission goals.	Value Proposition Matrix

WHY AAU IS MISSION ORIENTED

- AAU has a strong impact focused culture (top scores
  at Times Higher Education Impact Ranking)
- AAU has strong tradition for partnerships
- AAU research aligned with EU Mission areas

Research Support Setup

JOINING FORCES FOR
MISSIONS

Mission

GDPR

Research ethics

Communikation

Bibliometrics Analysis

Project Management and Finance

Business development

Student entrepreneurship

Contracts

Fundraising

EU Agenda – Safeguarding interests

Data-management

Governance structure with AAU partners –
The Mission Partner Board

JOINING FORCES FOR MISSIONS

Task and Mandate:

As a member of the Mission Partner Board, you have **genuine influence** on the mission's progression and professional content. The Mission Partner Board, in collaboration with AAU Mission Management and the AAU Mission Unit, is responsible for:

• Ensuring the **mission's progress at the project portfolio level** – including committing to and engaging in supporting the cultivation, development, and utilization of synergies between mission projects
• Ensuring that members' assessments of the mission's activities **guide the mission at both an operational and strategic level**

MISSION PARTNER BOARD -
Wellbeing of Children & Youth

Members:

1. Asger Kjær Sørensen, Forperson, **Danske Gymnasieelevers Sammenslutning (DGS)**

2. Steffen Raun Fjordside, vicedirektør, **Børns vilkår**

3. Tina French Nielsen, Salgs- og forretningsudviklingschef, **KMD Base/Børn og Uddannelse**

4. Trine Hammershøy, Direktør, **Det Sociale Netværk**

5. Frans Hammer, 2. Næstformand, **Danmarks Idrætsforbund (DIF)**

6. Anna Bjerre, Direktør, **Girltalk**

MISSION PARTNER BOARD - ENERGY

Members:

1. Bo Svoldgaard, CTO, **Energy Cluster DK**
2. Kristian Thulesen Dahl, Direktør, **Port of Aalborg**
3. Kasper Roed Jensen, VP, **Vestas**
4. Kia Marie Jerichau, Director, Fleksibilitet og balancering **Energinet**,
5. Morten Westergaard, Middelfart Kommune, **Energifællesskaber Danmark**
6. Søren Gais Kjeldsen, CEO, **Aalborg Forsyning**
7. Søren Hageman, Direktør, **NIRAS**

JOINING FORCES FOR **SUSTAINABLE ENERGY**

Mission based research in an EU context

- The promise of societal impact is motivating for **all** researchers

- Broad stakeholder partnerships are more challenging but also offer significantly larger potentials

- *Challenge*: how can EU FPs evolve from individual 'island' projects to project portfolios, work with progressive roadmaps and linking better to EU policy?

- *Challenge*: working with the national political level on mission frameworks is cumbersome, but seems even harder in an EU context. How can direct paths be established?
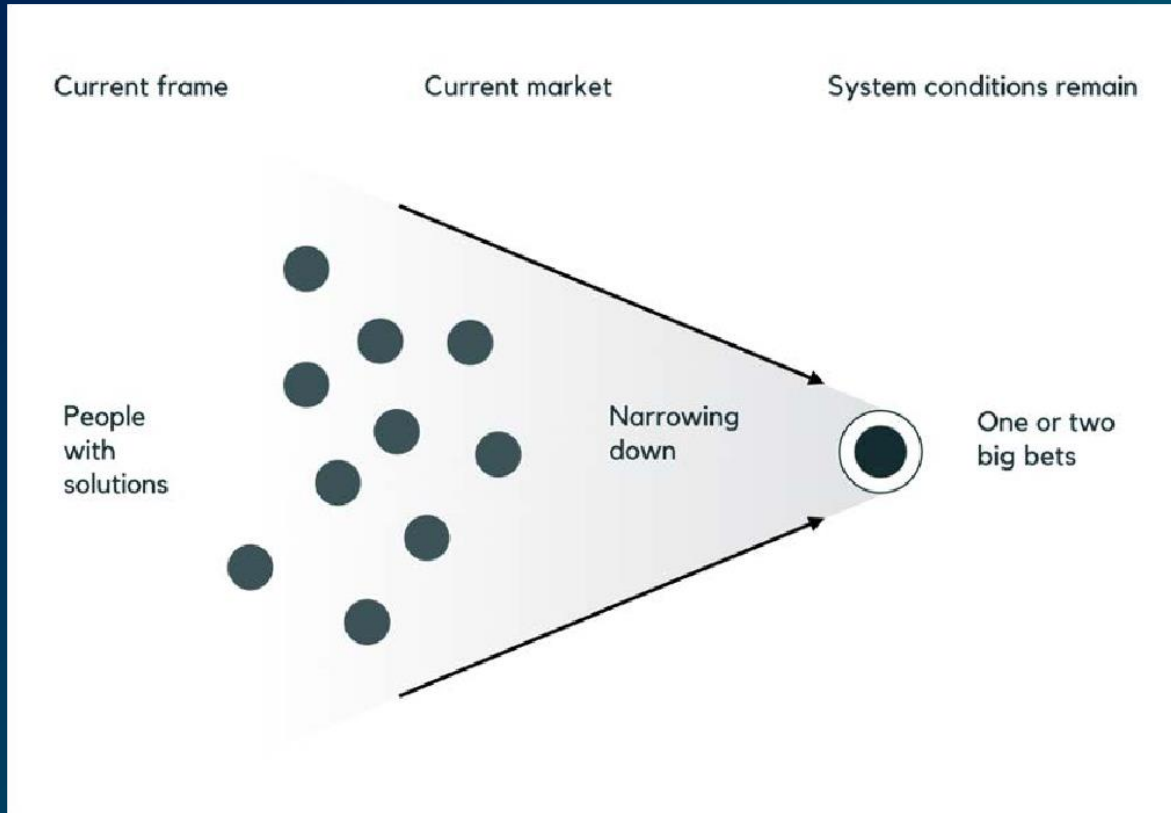
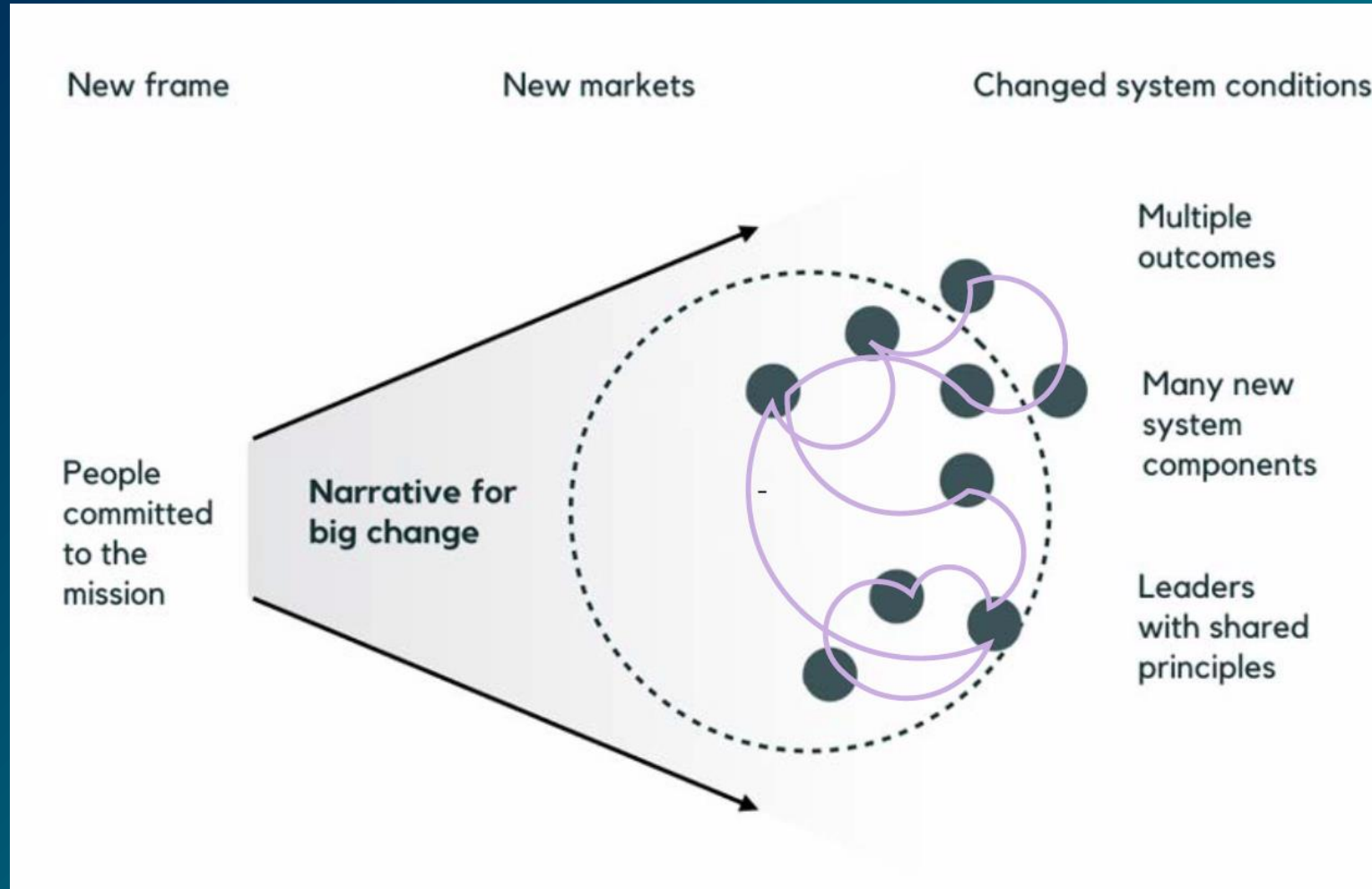# FROM THE FUNNEL TO THE MEGAPHONE
– *a reversed innovation approach*
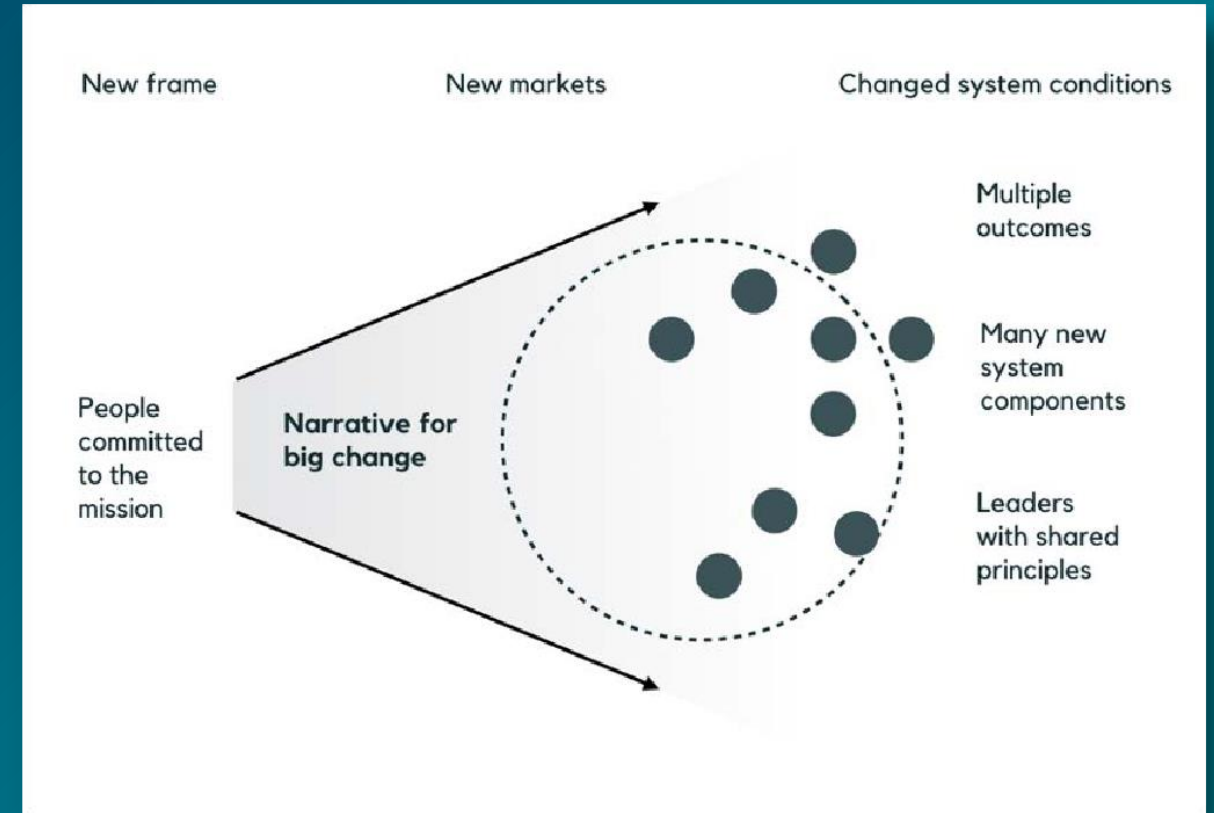
Government
Innovation support, policy framework, regulation, professional expertise, scalability

Business
Entrepreneurship, R&D, venture capital, product and service development, market needs,

Academia
Basic and applied research, education, capacity-building, competence framework, incubator, spinoffs,

Civil society
Collaboration, practical know-how, networks, mobilisation, legitimacy, acceptability, lay expertise

Quadruple Helix framework (adapted from Budtz-Pedersen, 2024; Schütz et al. 2019)