



AUSTRIAN ADVANCED
LIGHTWEIGHT TECHNOLOGY

A2LT – Austrian Advanced Lightweight Technology

A joint initiative of the Automotive-, Mechatronic-, Plastics-Cluster and the industry division of the Upper Austrian Chamber of Commerce and the ACstyria



innovation is our business.



wk/occe
sparte.industrie

Global Megatrends

AND THEIR IMPACT ON FUTURE TECHNOLOGY DEVELOPMENT



GROWTH OF POPULATION

By 2050 the world population will grow by 25 %. The main focus of growth is Asia which will also grow economically. So more and more people have to share the scant resources of the planet.

Fact: Importance of circularity and sustainability will grow



URBANIZATION

In 2050, 68% of the world's population will live in urban areas.

Requirement: This demands new mobility and infrastructure concepts.



NEW MOBILITY

Known and future mobility will connect people on short and long haul traveling. Mobility is and will be diversified.

Reality: New markets are emerging and demand new solutions, on the ground and in the air.



CLIMATE CHANGE

Reduction of CO2 emissions to almost zero. Target achievement will only function with innovation and technology development increasingly important for the mobility industry.

Assessment: Sustainability is becoming a defining issue in the industry.

Why Lightweight Construction

A KEY ENABLER FOR SUSTAINABLE GROWTH

WHY

Vision and
Mission



Sustainable Growth from Innovation

Global developments create framework conditions that open up opportunities. We are committed to drive innovation to develop lightweight technology across the value chain.

HOW

Strategic
Driver



Innovation

- Technology Front Runner
- Trend Setting
- Sustainable

Horizontal / Vertical Network

- Universities
- Industry
- Government

Diversification & Value Stream

- Material
- Process
- Automation
- Industrialization

Education

- Education of future talent
- Setting up technology hubs (LIT)

WHAT

Concrete
realization



Materials

- High Performing Steel & Aluminum
- Powder Materials
- Composite Materials

Process

- 3D Printing
- Forming Technology
- Hybrid Assembly
- Material Circularity

Automation

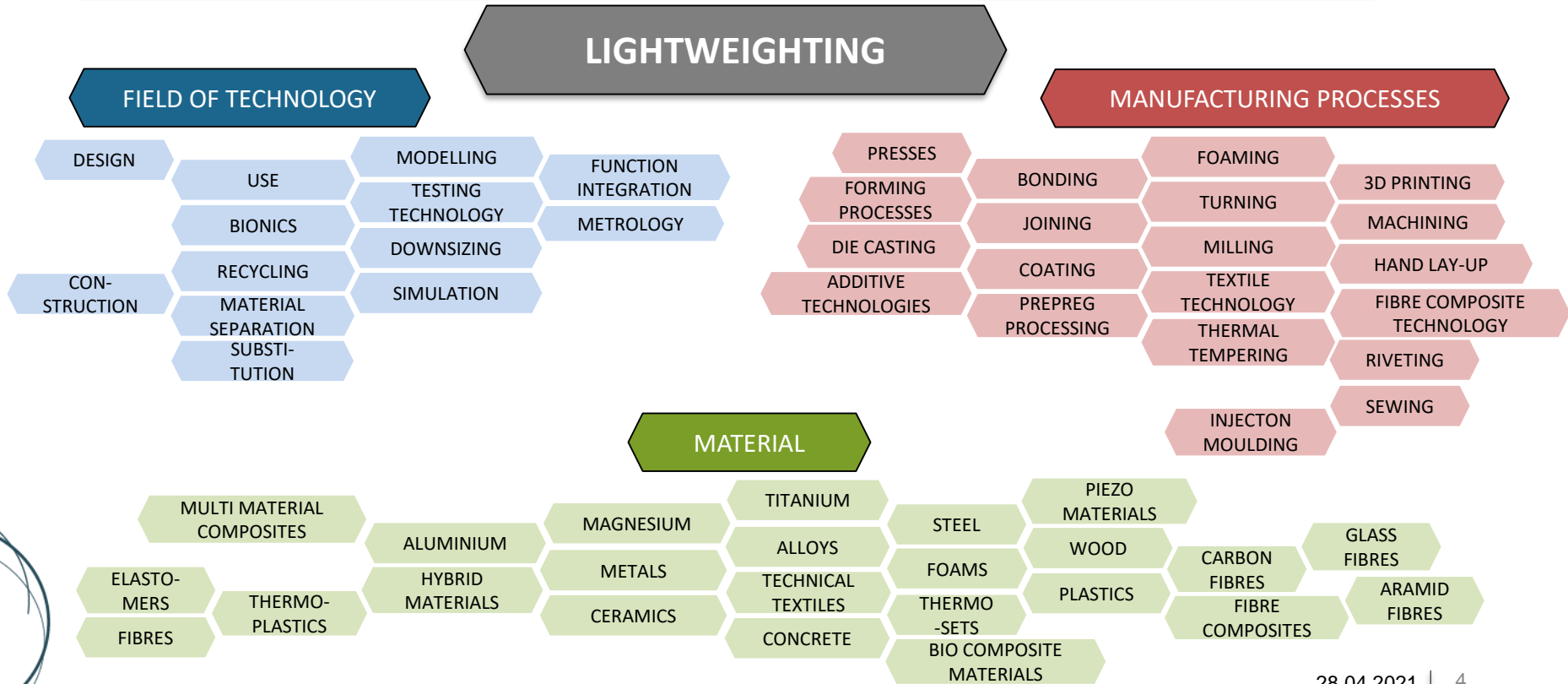
- Industry 4.0
- Digitalization
- Robotics
- Cycle Time & Cost Reduction

Products

- Rail
- Trucks
- Automotive
- Aircraft & Space
- Future Mobility

Lightweighting Disciplines

TECHNOLOGIES – MATERIALS – PROCESSES



Who we are

THE A2LT-MEMBERS

A network of **companies & institutes** focused on the development of **lightweight technological-** and manufacturing processes.



18 companies & institutes



38,000 employees

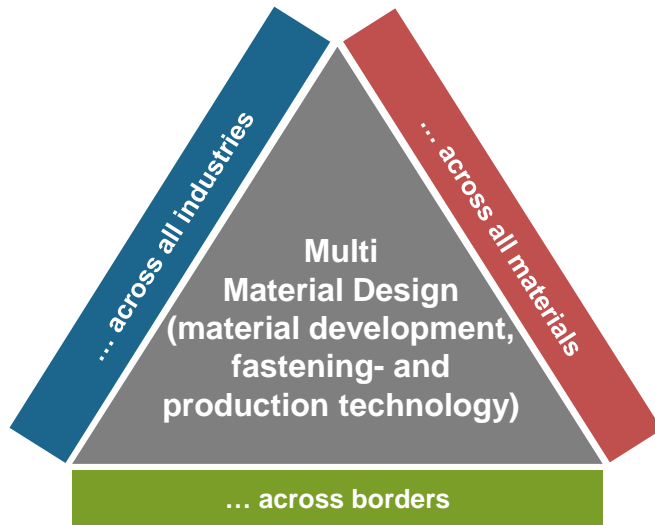


EUR 16 Billion Revenue
EUR 600 Mil R&D Budget



Our Mission

AFFORDABLE, SUSTAINABLE AND SMART LIGHTWEIGHTING



... affordable lightweighting



... sustainable lightweighting



... smart lightweighting



A2LT Activities

INITIATING – NETWORKING – SUPPORTING

Initiate collaborative Projects



Joint approach on R&D activities by means of:

- local
- national
- international

funding programs

Networking & Know How Exchange



A2LT Meetings:

- Frequent meeting of the cross-industry ecosystem within A2LT
- Sharing know how on cutting edge technology developments
- visibility for best practice solutions

R&D Mentoring & Support



Mentoring & financial support for R&D institutions and young talents:

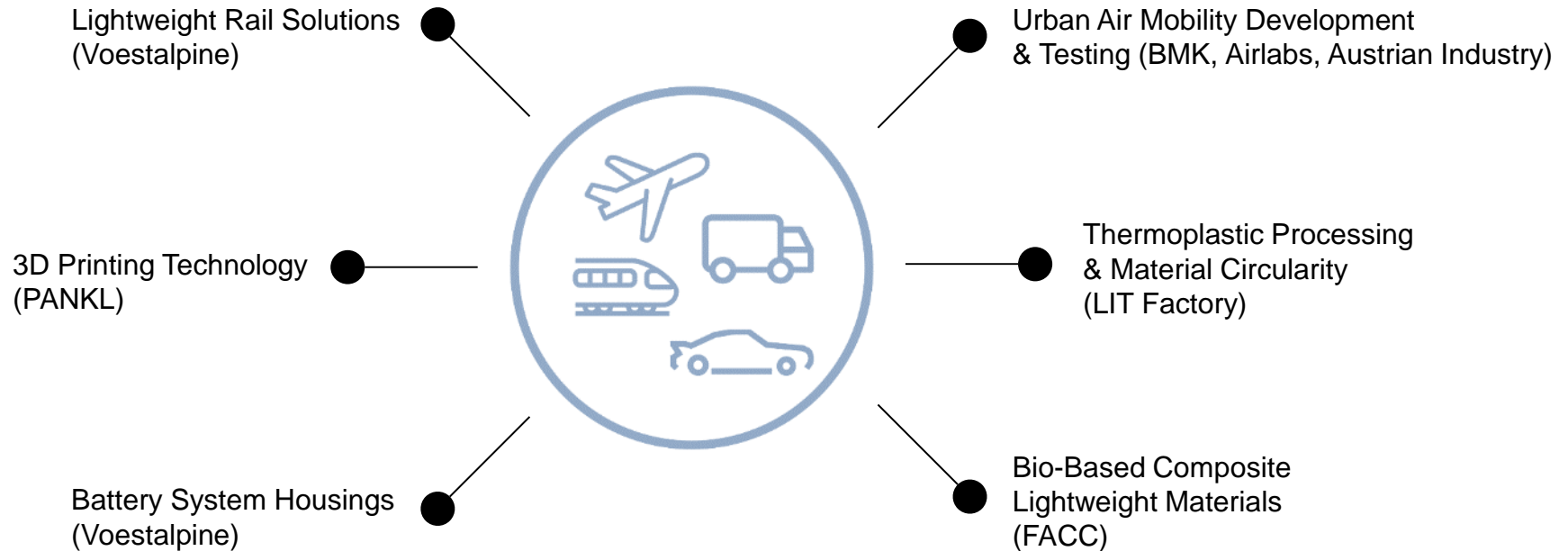
- frequent call for projects
- Ensuring expert mentoring from A2LT members
- Generating new know how for the entire A2LT ecosystem

A2LT Lightweighting Eco-System



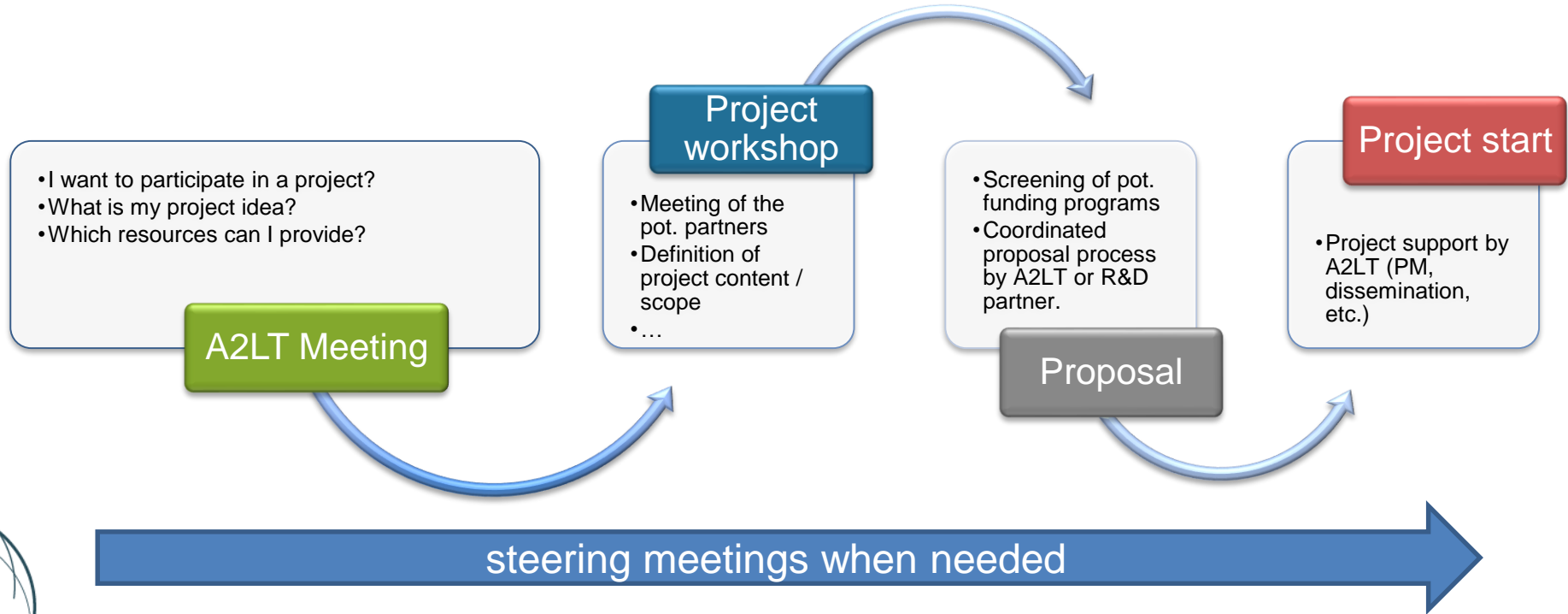
Innovation & Technology

OVERVIEW OF LIGHTWEIGHT PROJECTS



„How to“ project

THE A2LT SUPPORT PROCESS



A2LT Best Practice

HIGHLIGHTS



R&D Mentoring & Support for novel drone concept:

- 40% weight-saving goals
- air-control approval
- development of approved materials and manufacturing processes



Successful Horizon2020 submission:

DT-NMBP-19-2019 “Advanced materials for additive manufacturing”

- Project: Multi FUN
- Lead: AIT
- Budget: 7.9 Mio Euros
- Partners: 8 out of 21 from Austria



Collaborative product development:

- Hydraulic cylinder with up to 70% weight saving compared to conventional cylinders
- optimization of production process
- improvement of the CFK-filament winding
- improvement of the metal-liner



A2LT Best Practice

HIGHLIGHTS

A2LT meetings / ACstyria Lightweight Day:



- Co-operative meetings
- Expert input and exchange
- Company tours
- 2020: ACstyria Lightweight Day in cooperation with A2LT



Co-Creation and financial support of scientific papers:



- Master thesis on additive manufacturing



- Bachelor thesis on joining technologies



International co-operation and projects:



- Group stands at int. trade fairs (JEC, IAA, ...)
- Visibility of A2LT at int. congresses (LMD Ranshofen, ...)
- International networking (European Lightweight Association – ELA)



What we need

EUROPEAN TECHNOLOGY TRANSFORMATION



Widen the Mindset

- Diversified & Holistic Approach
- Customized Technology Development across the value Chain
- **Regulations that support both, technology transformation and strengthening Europe's global market position.**



Stay Focused

- Claim for technology-leadership
- Further strengthen technologies where leadership is already existing
- Exploring future technologies
- **Specific Lightweighting Funding**
- Support Lighthouse R&D facilities to define new global standards



Investment-support

- Long term commitment for R&D support. We shall keep up with of other nations like China or US.
- Technology-neutral R&D support
- **Simply funding structure to increase "time to market". Rethink TRL requirements in support of technology development**

Contact & Information

Mag. Jürgen Bleicher

Project Manager
Plastics-Cluster

+43 664 818 65 81

juergen.bleicher@biz-up.at



Stefan Hopper, Bsc

Project Manager
Automotive-Cluster

+43 664 848 12 92

stefan.hopper@biz-up.at



www.a2lt.at