ICNAP COMMUNITY
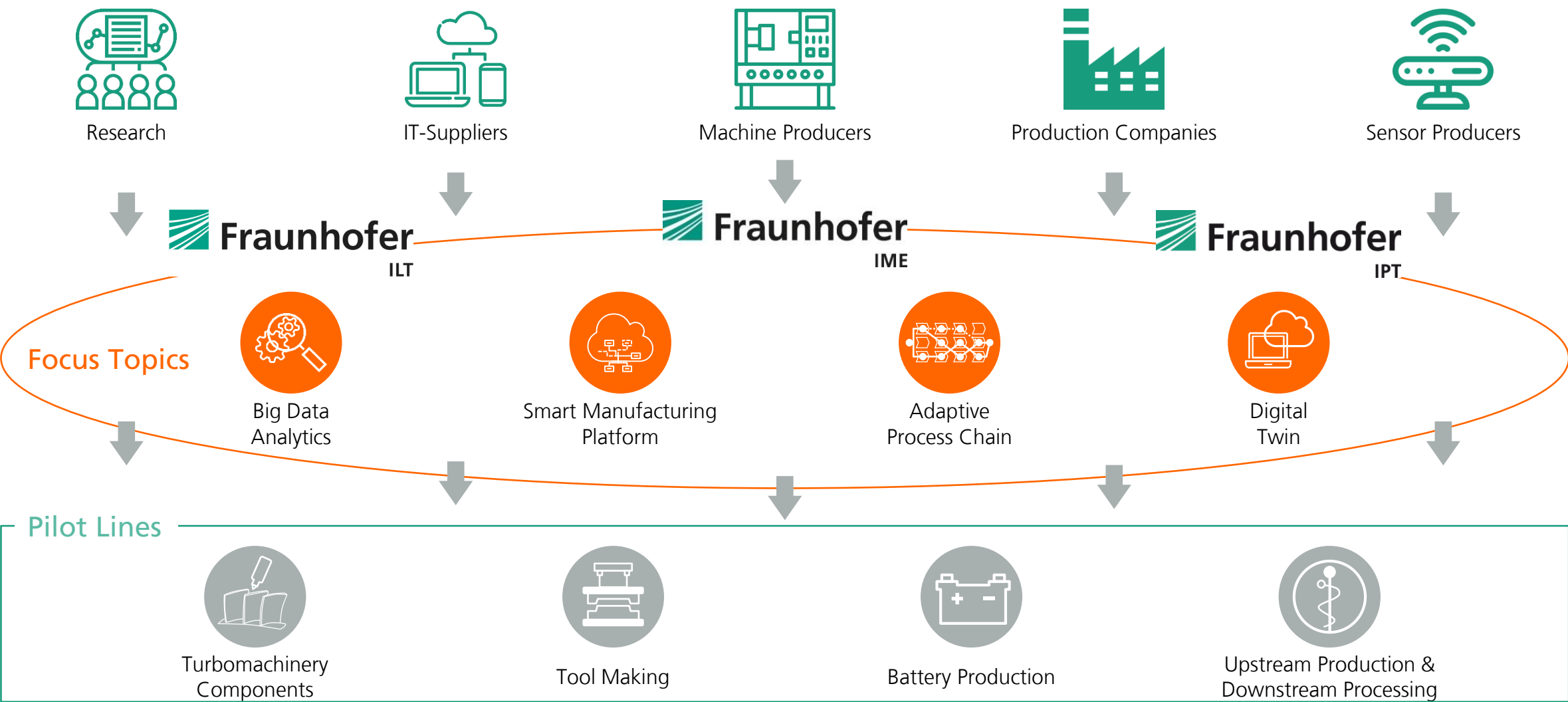# »NETWORKED, ADAPTIVE PRODUCTION«

Your Benefits of a Community Membership

# Concept of the International Center for Networked, Adaptive Production

Research

IT-Suppliers

Machine Producers

Production Companies

Sensor Producers

Fraunhofer ILT

Fraunhofer IME

Fraunhofer IPT

Focus Topics

Big Data Analytics

Smart Manufacturing Platform

Adaptive Process Chain

Digital Twin

Pilot Lines

Turbomachinery Components

Tool Making

Battery Production

Upstream Production & Downstream Processing

ICNAP Community Encloses Users und Enabler of Industrie 4.0

As member of the exclusive and cross-industry community »Networked, Adaptive Production«, companies have access to developments and results of the Industrie 4.0 research of ICNAP. By merging both users and enabler of Industrie 4.0 in one community, a platform is created that allows knowledge exchange, partner matching or initiation of mutual projects in the area of digitalization.

Production Companies

+

Enabler

Community »Networked, Adaptive Production«

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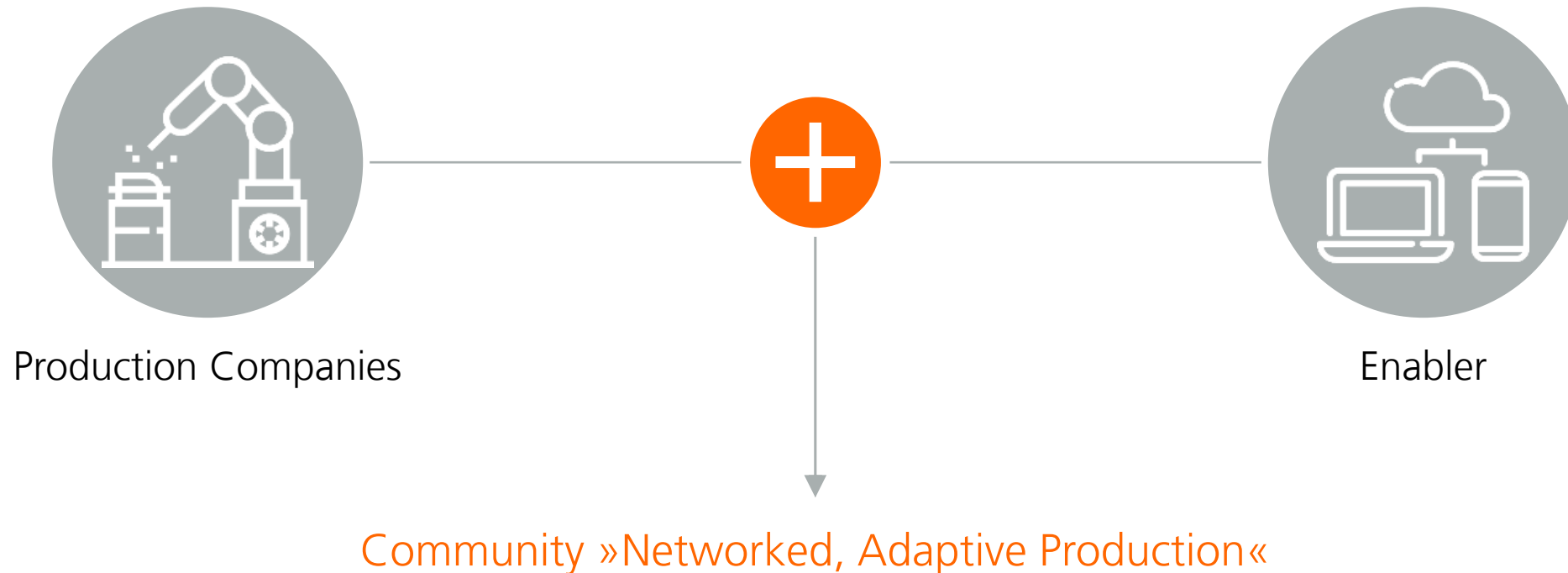
Production Companies – High Potential of Networked, Adaptive Production!

Potential of Networked, Adaptive Production

High Flexibility

Increase in Occupancy Rate

Process Optimization

Efficiency Enhancement

Increase in Turnover

New Business Models

Individualized Products

Benefit of Community

- Experience in our community, how digitalization at your company can be realized, starting with data acquisition, over data analytics to an adaptive production control
- Exchange knowledge with companies of various sectors and sizes as well as with different Industrie 4.0 maturity levels
- Find the perfect enabler to realize a networked, adaptive production in your company

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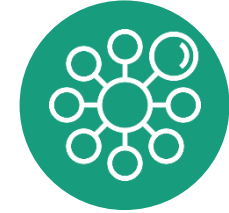# Enabler – Establish Your Company in the Manufacturing Sector!

Potential of Networked, Adaptive Production for Enabler

New, Big Customer Segment
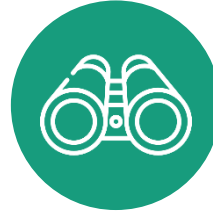
Seminal Customer Segment

Cross-Industry
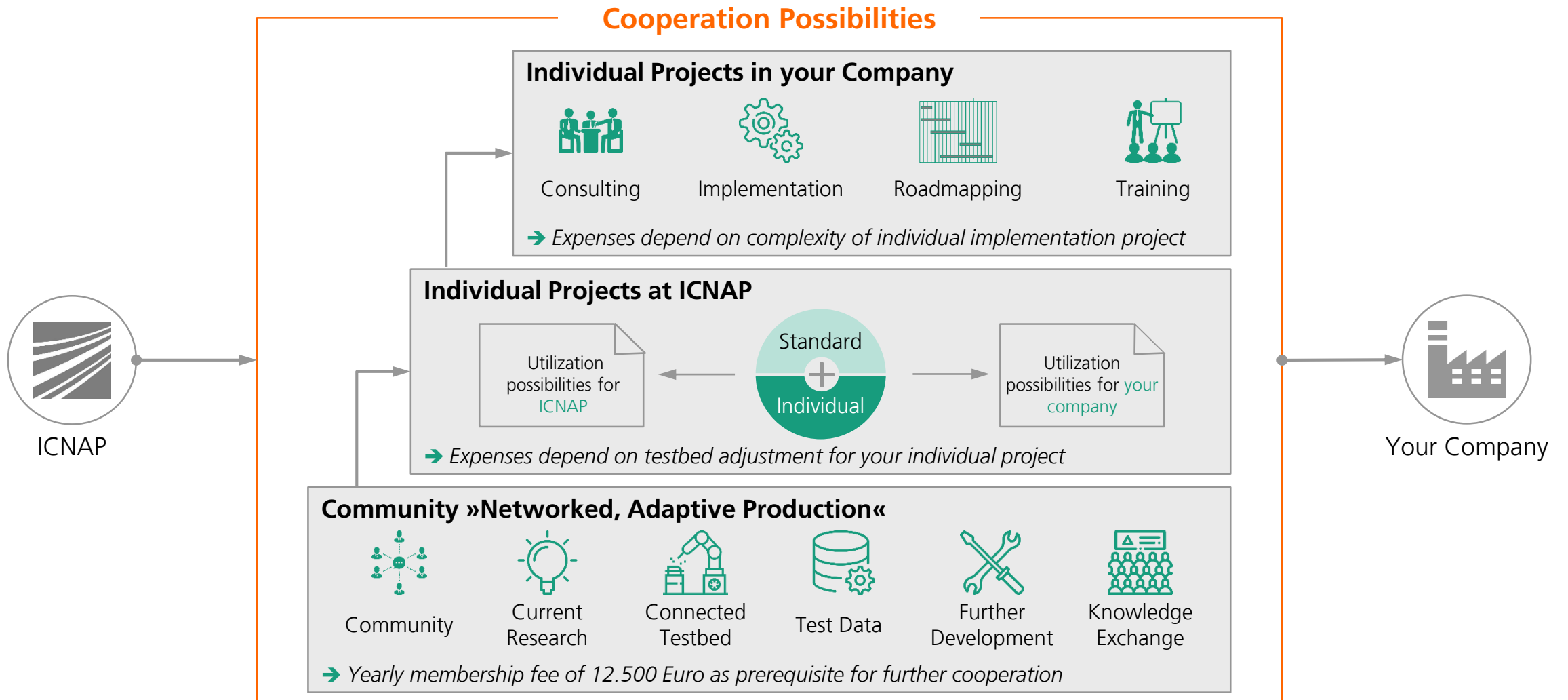
Expansion of Product Portfolio

New Business Models

Benefit of Community

- Establish your company in the manufacturing sector, which is one of the largest in the world and will be growing in the future
- Learn how to handle production data
- Present your soft- and hardware solutions for networked, adaptive production to potential customers

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Overview of your Cooperation Possibilities

Cooperation Possibilities

Individual Projects in your Company

Consulting   Implementation   Roadmapping   Training

➜ *Expenses depend on complexity of individual implementation project*

Individual Projects at ICNAP

Utilization possibilities for ICNAP ← Standard + Individual → Utilization possibilities for your company

➜ *Expenses depend on testbed adjustment for your individual project*

Community »Networked, Adaptive Production«

Community   Current Research   Connected Testbed   Test Data   Further Development   Knowledge Exchange

➜ *Yearly membership fee of 12.500 Euro as prerequisite for further cooperation*

ICNAP

Your Company

Fraunhofer

Offer for Members of Community »Networked, Adaptive Production«

Public Funding

Partner Matching Portal

Hackathon & Techathon

Biannual Newsletter

Workshops & Work Groups

Access to Test Data

Yearly Community Meetings

Studies & Researches

Trainings & Seminars

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Yearly Community Meetings – Networking with the Community!

OUR APPROACH

- Yearly, one-and-a-half-day community meeting in Aachen
- Keynote speech about latest results and developments in the ICNAP focus topics
- Presentation of results of studies and researches
- Definition of new work groups and study topics
- Moderated expert forums to trending topics
- Community speed dating
- Discussion rounds and networking possibilities

YOUR BENEFIT

- Knowledge exchange with other companies regarding networked, adaptive production
- Presentation of your innovations and products to other community members
- Voting of new topics for joint studies and researches regarding the topic networked, adaptive production
- Meet and exchange with potential partners to realize a networked, adaptive production at your company respectively to establish your products in a production company

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Partner Matching Portal – Answer Research Questions Together!
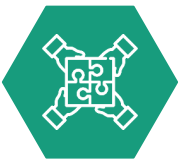
OUR APPROACH

- Online platform for community members is provided and hosted by Fraunhofer
- Every community member has its own company profile and can present their products as well as their needs for a networked, adaptive production
- Exclusive online discussion forum
- Access to virtual ICNAP shop floor that shows the connected machines as well as their hardware (e.g. sensor, data base)

YOUR BENEFIT

- Partner for bilateral projects can be found faster and contacted more easily
- Enabler have the possibility to present their products (e.g. software, sensors) more target oriented
- Production companies can easily find the right supplier for their digitalization projects
- Access to best practice examples for networked, adaptive production by a virtual shop floor

# Biannual Newsletter – Latest Information from First Hand!

OUR APPROACH

- Biannual newsletter with reports of latest results and developments around ICNAP

- Newsletters include:
  - Findings and developments in ICNAP's focus topics big data analytics, smart manufacturing platform, digital twin und adaptive process chain
  - Findings in cross-industry pilot lines
  - Best practices of community members

YOUR BENEFIT

- Latest results and findings regarding the seminal topic networked, adaptive production are presented well prepared and first hand

- Possibility of presenting and promoting your company to the community in form of best practice reports
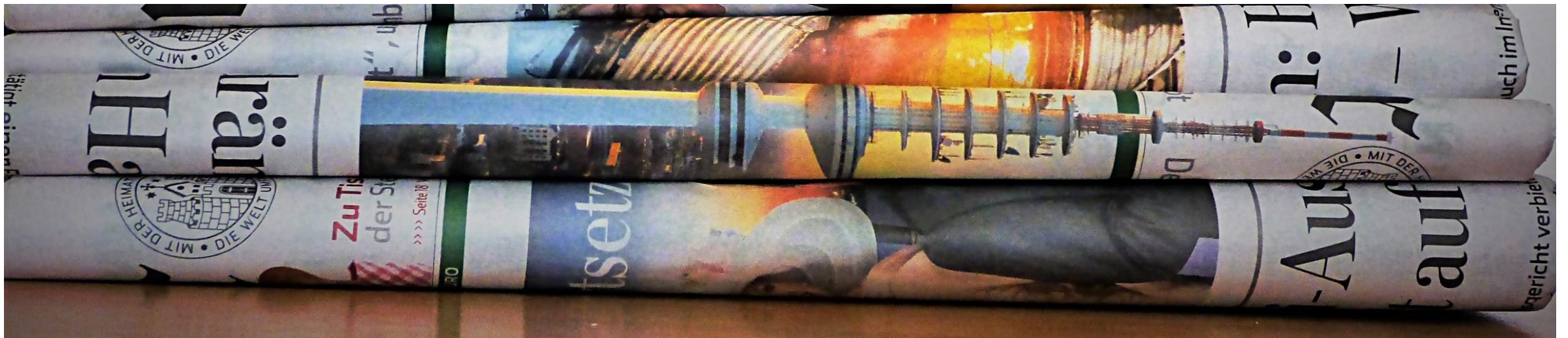
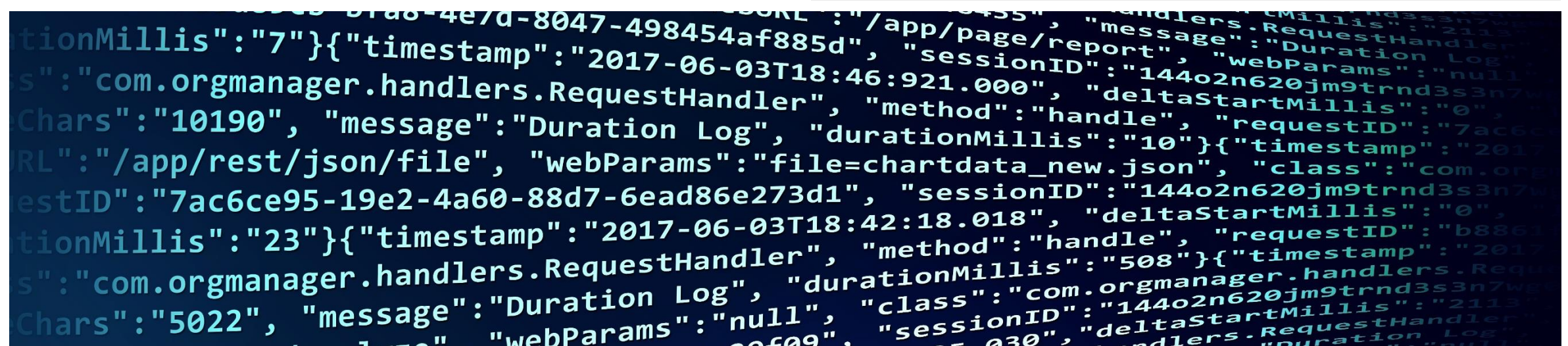# Access to Test Data – Learn how to Handle Production Data!

OUR APPROACH

- Production data from cross-industry pilot lines are prepared and stored in a database in our Fraunhofer-invented cloud, the Virtual Fort Knox
- Production data need to fulfill different requirements regarding data acquisition and data usages (e.g. high latency, large amounts of data etc.)
- Community members get access to the cloud and can work with selected data sets

YOUR BENEFIT

- Get to know the multifaceted requirements of production data and how these are influencing the data usages
- Production companies can learn how to handle and understand data, especially when they did not generate their own production data yet
- Enabler have the possibility to test soft- and hardware with real production data

8f78-4e7d-8047-498454af885d", ...URL":"/app/page/report", "sessionID":"144o2n620jm9trnd3s3n7... "message":"Duration tionMillis":"7"}{"timestamp":"2017-06-03T18:46:921.000", "webParams":"null s":"com.orgmanager.handlers.RequestHandler", "method":"handle", "deltaStartMillis":"0", Chars":"10190", "message":"Duration Log", "durationMillis":"10"}{"timestamp":"20 RL":"/app/rest/json/file", "webParams":"file=chartdata_new.json", "class":"com.or estID":"7ac6ce95-19e2-4a60-88d7-6ead86e273d1", "sessionID":"144o2n620jm9trnd3s3n7... tionMillis":"23"}{"timestamp":"2017-06-03T18:42:18.018", "deltaStartMillis":"0", s":"com.orgmanager.handlers.RequestHandler", "method":"handle", "requestID":"b88 durationMillis":"508"}{"timestamp":"201 Chars":"5022", "message":"Duration Log", "class":"com.orgmanager.handlers.Req webParams":"null", "sessionID":"144o2n620jm9trnd3s3n7... "deltaStartMillis":

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# Studies & Research – Analyses of Topics of Your Choice!

OUR APPROACH

- Identification of possible topics for studies and researches by Fraunhofer based on market analyses in ICNAP's focus topics
- Presentation of topics during yearly community meetings
- Choice and concretization of topics by community members
- Elaboration of studies and researches over the year (between two annual community meetings), validation by use cases of community members

YOUR BENEFIT

- Independent research results
- Direct influence on topic and content of the study
- Interdisciplinary group of experts
- Possibility to provide use cases for the study and thus to get an analysis of your company regarding the chosen topic

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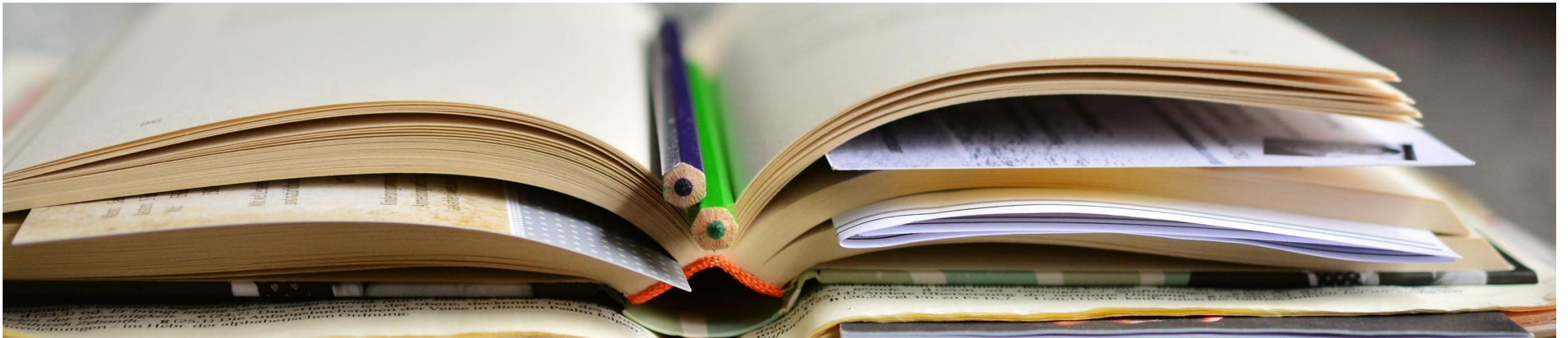
# Hackathon & Techathon – The Creative Way of Research!

OUR APPROACH

- One joint hackathon respectively techathon per Year
- Planning and conception of the event
- Customized advertisement to get the right participants
- Organization of the event (e.g. location, catering) and supervision of participants by Fraunhofer
- Presence of Fraunhofer during whole event

YOUR BENEFIT

- Creative solutions for your problems within a short amount of time
- Solve problems and answer research questions in a completely different way
- Access to creative and talented students in Aachen (around 60.000 students in Aachen; big faculties for engineering and computer science)

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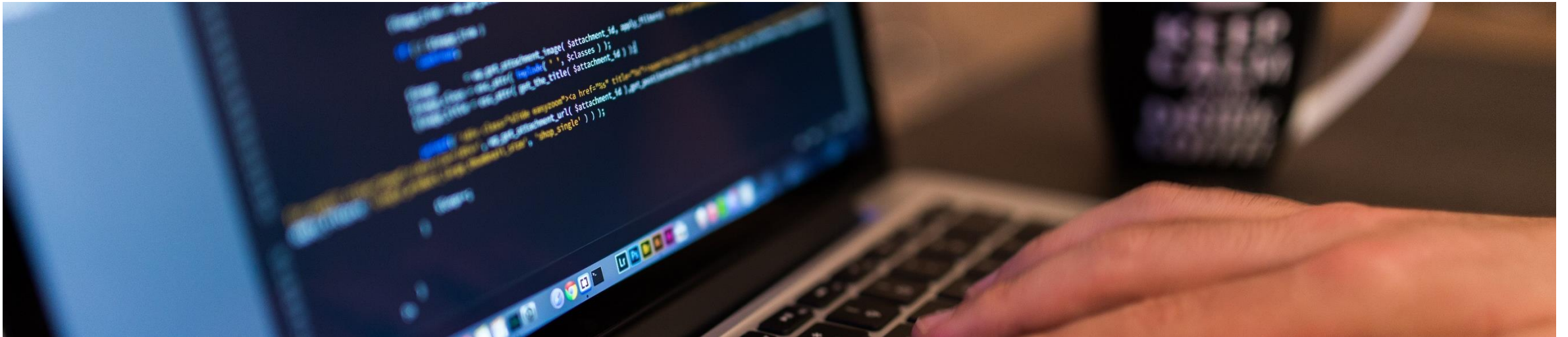
Public Funding – Financial Support in Your F&E-Projects!

OUR APPROACH

- Identification of available public funding possibilities corresponding to your needs (e.g. BMBF, BMWi, EU, EFRE, etc.)
- Identification of potential research project partners and consultation regarding the research topic your company should focus on
- Composition of consortium for research project

YOUR BENEFIT

- Support in the acquisition of public funding for collaborative research projects
- Overview of partners that fit for your research project
- Support in the preparation and formulation of the research proposal

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Workshops & Work Groups – Focused Exchange in the Community!

OUR APPROACH

- Set up industrial work groups, which are separated by the topics and technologies round about the topic networked, adaptive production
- Latest developments and topics for joint research projects are discussed during regular work group meetings
- ICNAP website as communication platform for work groups

YOUR BENEFIT

- Technology- and product-oriented networking
- Identification of precompetitive projects and initialization of these projects
- Creation of a showcase for your services and products in- and outside the community

Trainings & Seminars – Become an Industrie 4.0 Expert!

OUR APPROACH

- Training and seminar offers regarding ICNAP's focus topics (big data analytics, digital twin, smart manufacturing platform, adaptive process chain)
- Presentations and workshops with Fraunhofer experts
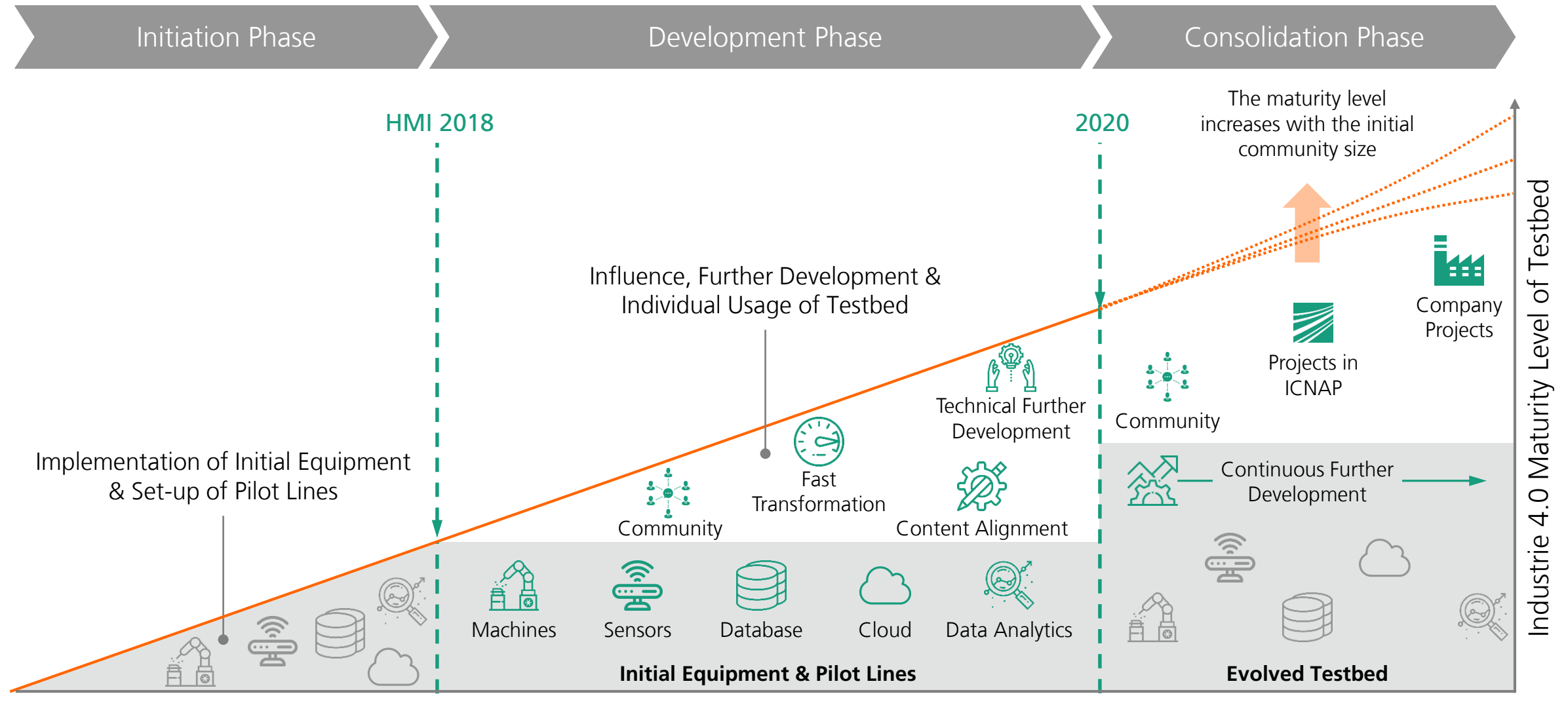- Practically relevant presentation of contents through demonstrators on the shop floor

YOUR BENEFIT

- Intensive and practically relevant training and application of topics of your choice
- Transfer of contents to the members of your company

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Directly Become a Community Member & Influence the Further Development

Initiation Phase | Development Phase | Consolidation Phase

HMI 2018

2020

The maturity level increases with the initial community size

Influence, Further Development & Individual Usage of Testbed

Technical Further Development

Community

Company Projects

Projects in ICNAP

Implementation of Initial Equipment & Set-up of Pilot Lines

Fast Transformation

Content Alignment

Community

Continuous Further Development

Machines | Sensors | Database | Cloud | Data Analytics

Initial Equipment & Pilot Lines

Evolved Testbed

Industrie 4.0 Maturity Level of Testbed

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Profit by a Direct Community Membership during ICNAP Development Phase

Initial Equipment & Pilot Lines

| Modern Machine Park | Innovative Sensors | Database | Cloud | Data Analytics |

Through knowledge exchange within the **community** you are able to gain know-how for your own company.

The **technical further development** of the testbed can be influenced during the development phase.

During the development phase you have an impact on the **content alignment** of ICNAP.

During the development phase modifications and adaptions of ICNAP testbed can be realized **faster**.

Directly becoming a community members enables you to premature gain insights into the latest developments, to influence the further development of the testbed and to increase the Industrie 4.0 level of your company in the long-term!

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Your Contact at ICNAP!

Community Contact Persons

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