

**MADE
SMARTER**
INNOVATION

SMART
MANUFACTURING
DATA HUB

Unlocking the Value of Shared Data in Manufacturing

Introduction to the Smart Manufacturing Data Hub

29th August Newry

- I. The Digital manufacturing Challenge
- II. Introduction to the Smart Manufacturing Data Hub
- III. How can SMDH help business?

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SMART
MANUFACTURING
DATA HUB

UNLOCKING THE VALUE OF SHARED DATA IN MANUFACTURING

Industry
Bodies

+

Research,
Development
& Innovation

+

Technology
Partners

+

Commercial
Solution
Providers



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Unlocking the Value of Shared Data in Manufacturing

The Digital manufacturing Challenge

Manufacturers face a challenge to keep pace with the dramatic speed of global technological change: unlocking the **enormous benefits** of digital technologies, while **limiting the risks** they present both now and in the future.

Current market conditions further intensify the need for rapid digitalisation in the sector...

More output from less people



Supply chain disruptions



Skills shortage



Global competition



Move towards net zero



Industry 4.0



Robotics



Machine Learning



Sensors



Digital Twin



Cobot



AI



Virtual Reality



Manufacturing testbed



Additive Manufacturing



IOT



CHALLENGE

How data centric / data mature is my business?

- What are the stages in the data / digital journey? How do I get started?
- Am I a data rich or poor business?
- Can I benchmark my business against others?

CHALLENGE

Are there any innovation vehicles or frameworks I can access eg accelerators, incubators, etc?

- Is there a space where I can share my challenges and identify potential solutions?
- Where can I test my low-cost solution?
- How can I take my low-cost solution to market?

CHALLENGE

Is there any funding available?

- Can I match my investment with government funding to reduce the barrier of cost to get started?
- Can I be a Demonstrator for my sector, industry, locality?
- Can I seek funding to enable SMEs to test and innovate?

CHALLENGE

How / where do I gather & monitor the right data?

- Do I have data / How do I gather data efficiently & effectively?
- How do I gather insight from my data?
- Where do I store all this data?

CHALLENGE

Do I have the right people with the right skills in my business to realise the value of data & digitally transform?

- What roles do I need? What skills sets do these roles need?
- Where can my staff access training pathways / content?

CHALLENGE

How do I build a digital manufacturing ecosystem around my business?

- I'm on my own, who can I learn from / share experiences with?
- What are the ingredients of a dynamic ecosystem?
- Who are the drivers, the enablers, the ambassadors, the champions?

CHALLENGE

How do I make informed / smart data driven digital investment?

- Where can I learn about / access enabling industrial digital technologies such as sensors, robotics, AI, additive manufacturing, etc?
- How can I ensure my investment is focused in the right place, is smart?

CHALLENGE

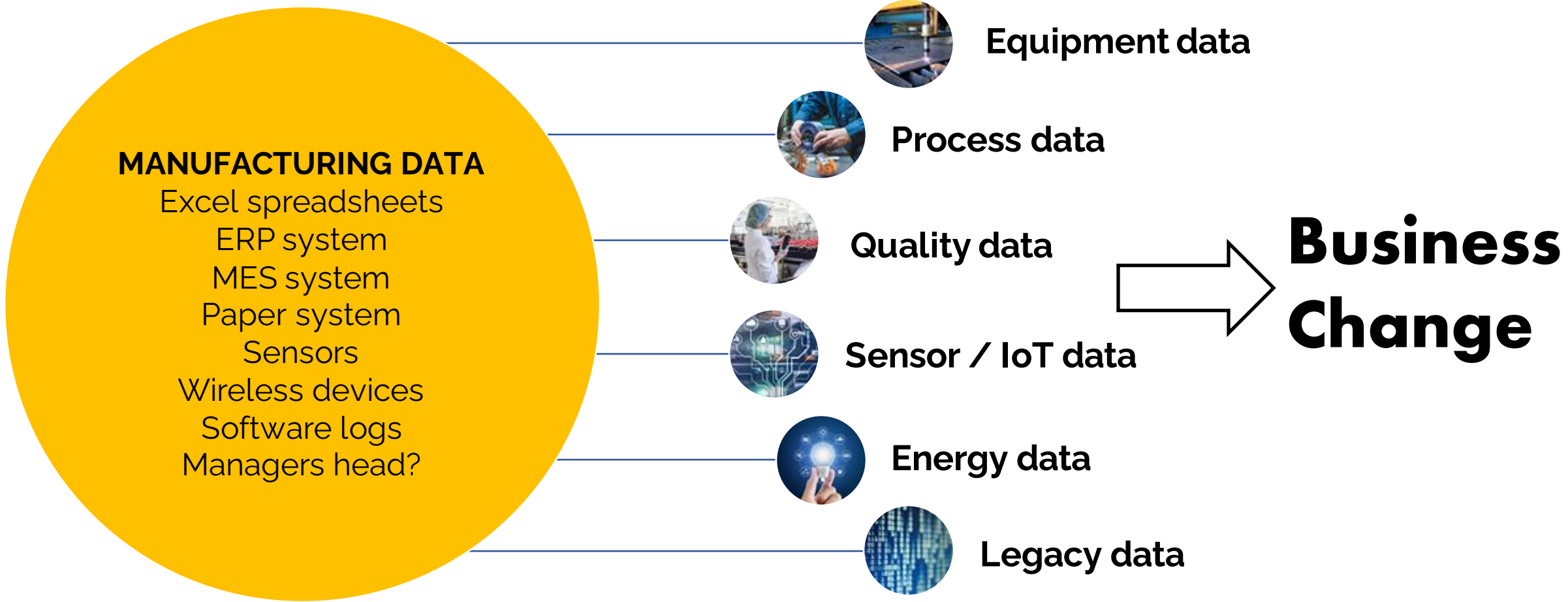
Who / where do I access tech solution suppliers? Ideally low-cost solution providers?

- Can I start small / low-cost?
- Where are my local suppliers?
- Where can I access a trusted digital marketplace?

You don't have to leave the four walls of your factory...



SMDH de-risks digitalisation and drives productivity in the manufacturing sector, using **innovation and **collaboration** to unlock the value of shared data**



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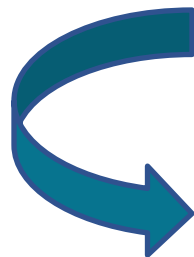
Introduction to the Smart Manufacturing Data Hub

What is the Smart Manufacturing Data Hub?

SMDH will support and enable small and medium-sized manufacturers, like you, to become more competitive by harnessing the power of data from your factory.

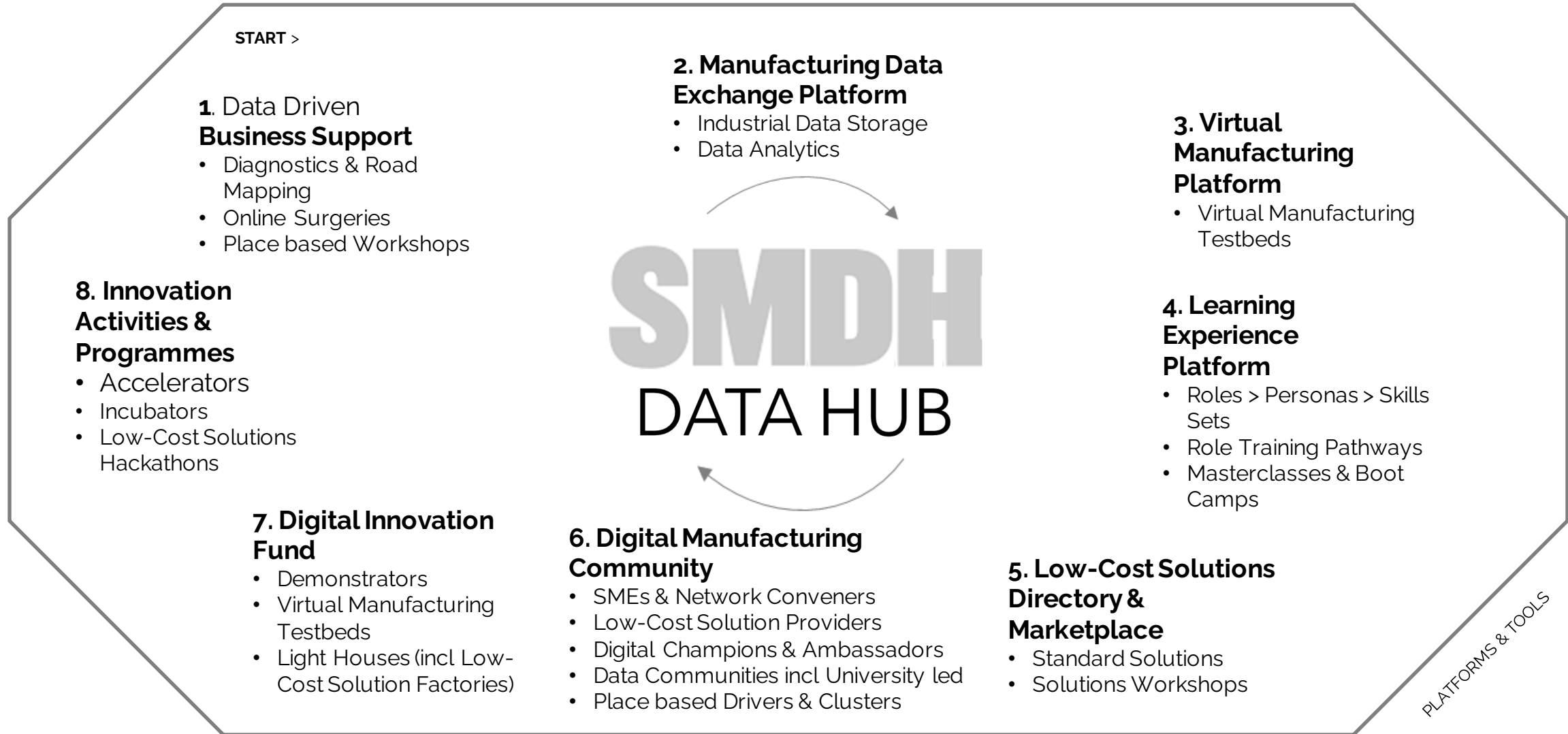
Key objectives:

- ✓ Increase Productivity
- ✓ Raise the adoption of digital technology
- ✓ Use your data smarter
- ✓ Get real value from data available



Moving companies away from non-data gathering manual systems

AI & ML informed production manufacturing systems



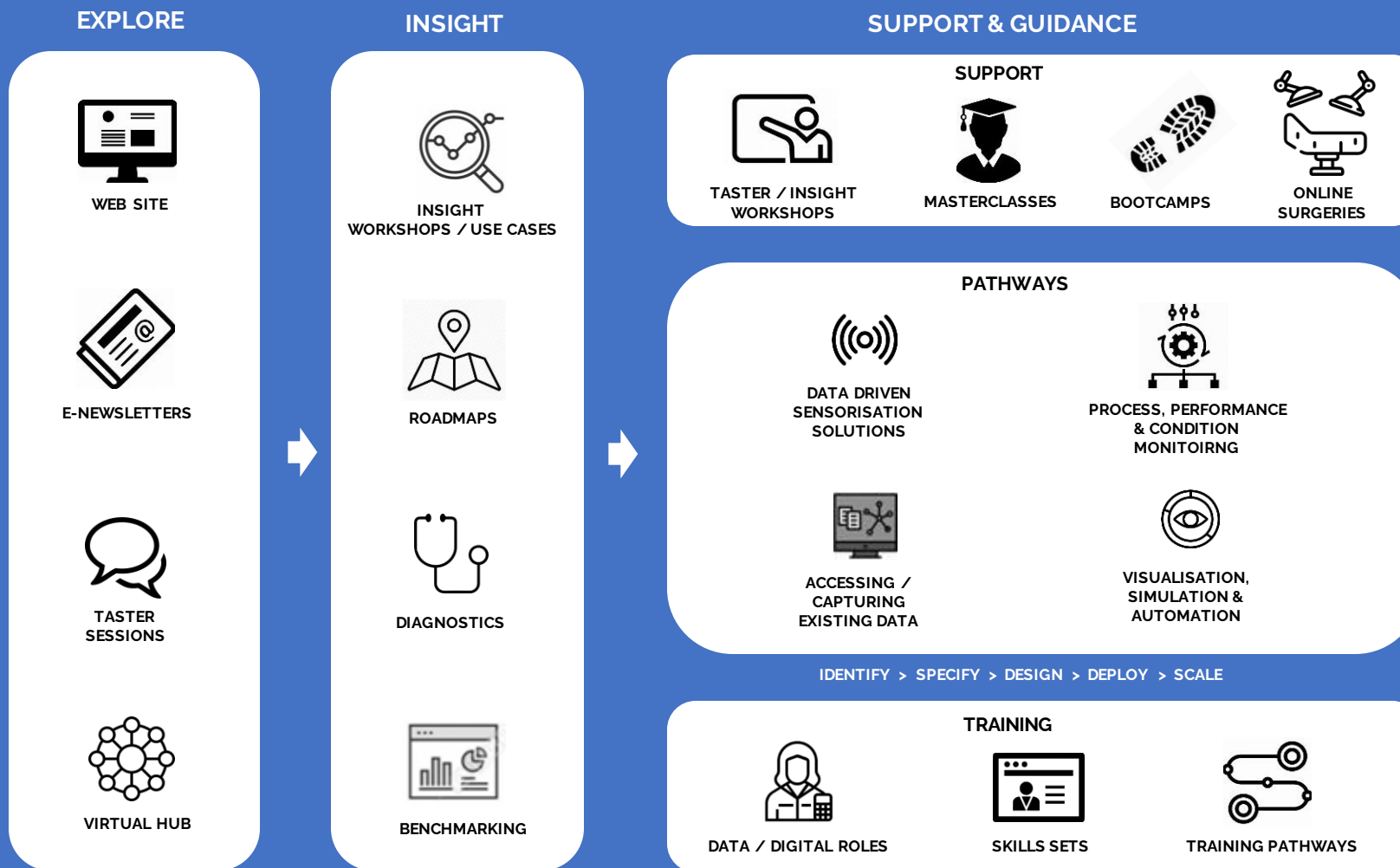
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Unlocking the Value of Shared Data in Manufacturing

How can SMDH help Business

The Intervention Journey



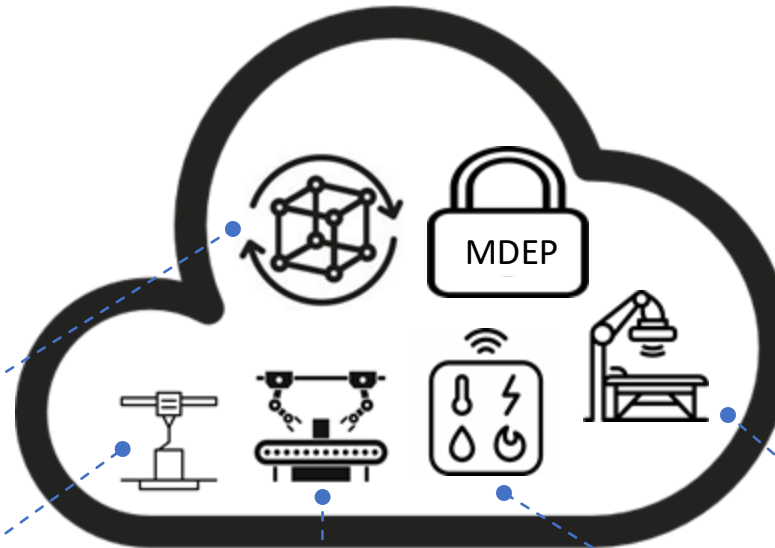
**MADE
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DATA HUB

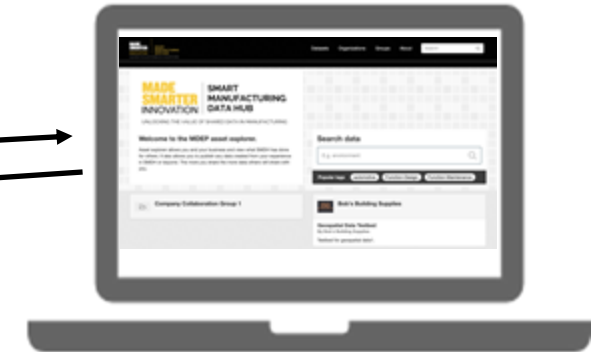
Unlocking the Value of Shared Data in Manufacturing

A Virtual Manufacturing Platform

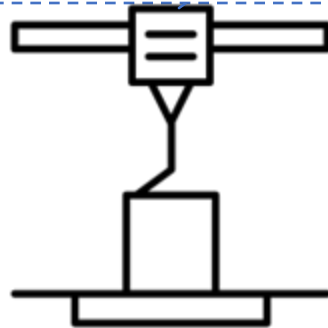
- Remote access to physical equipment
- Virtual Representations in the cloud
- Generate data and process in MDEP
- Access enabling technologies
- Explore new opportunities
- De-risk investment



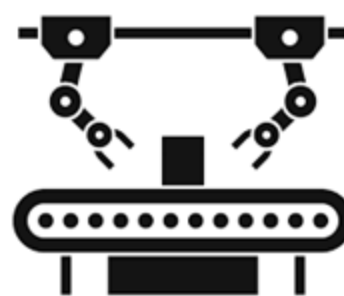
Web based access from any location



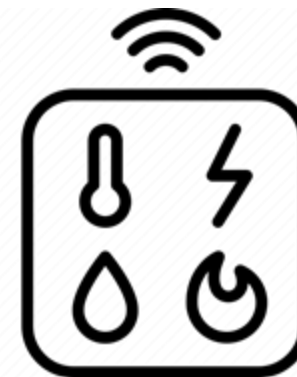
Reconfigurable manufacturing cells



Additive Manufacturing



Intelligent Robotics



IIoT and Sensors



Advanced Inspection Systems

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Virtual Manufacturing Platform

Virtual Manufacturing Platform

The virtual manufacturing platform (VMP) is a cloud-native technology de-risking platform which enables access to leading manufacturing technologies.

The VMP gives users:

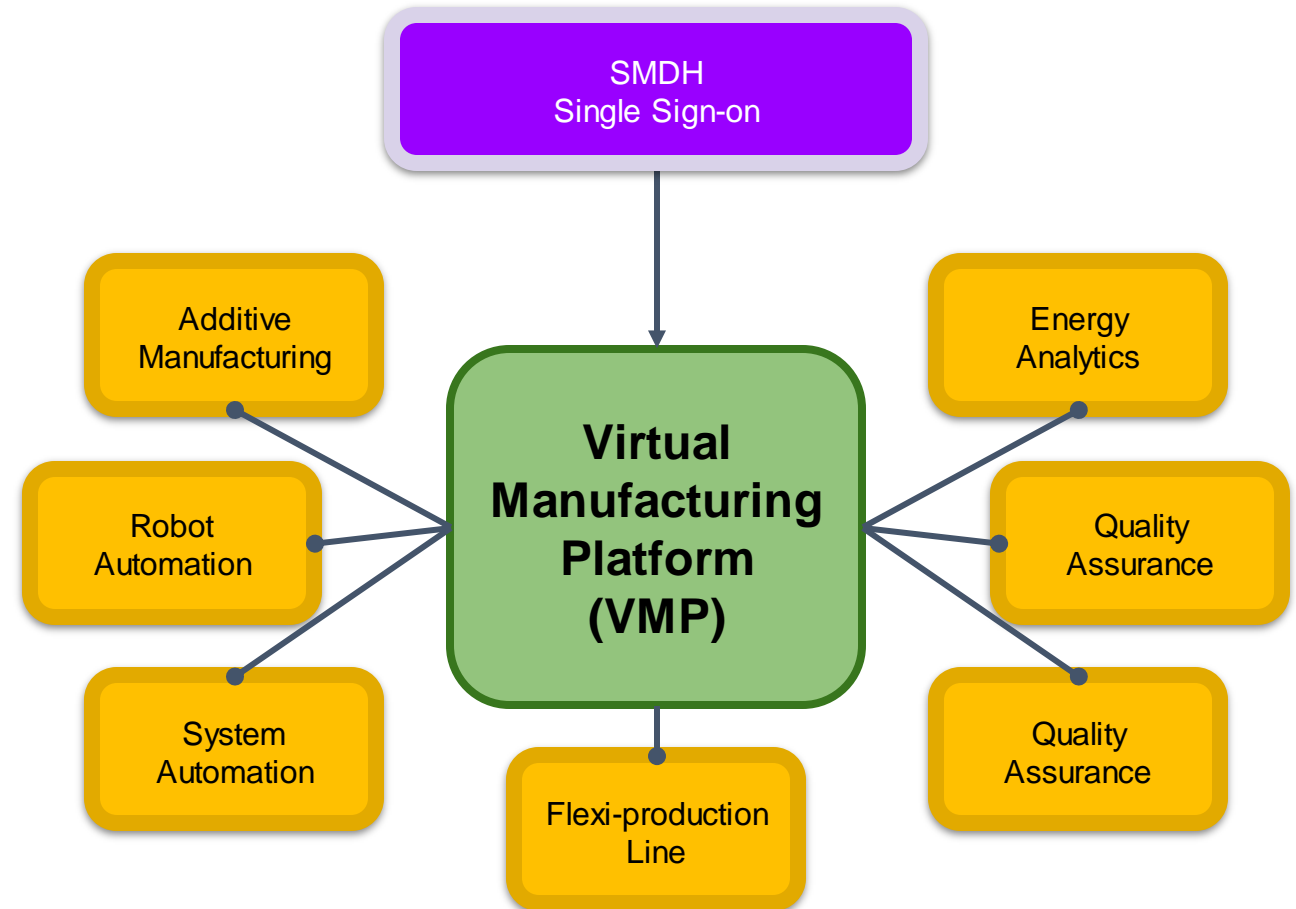
- Seamless in-browser access to sandbox testbeds
- Pre-configured scenario testbeds
- Support and access to LXP with clear technology pathways

Virtual Manufacturing Platform

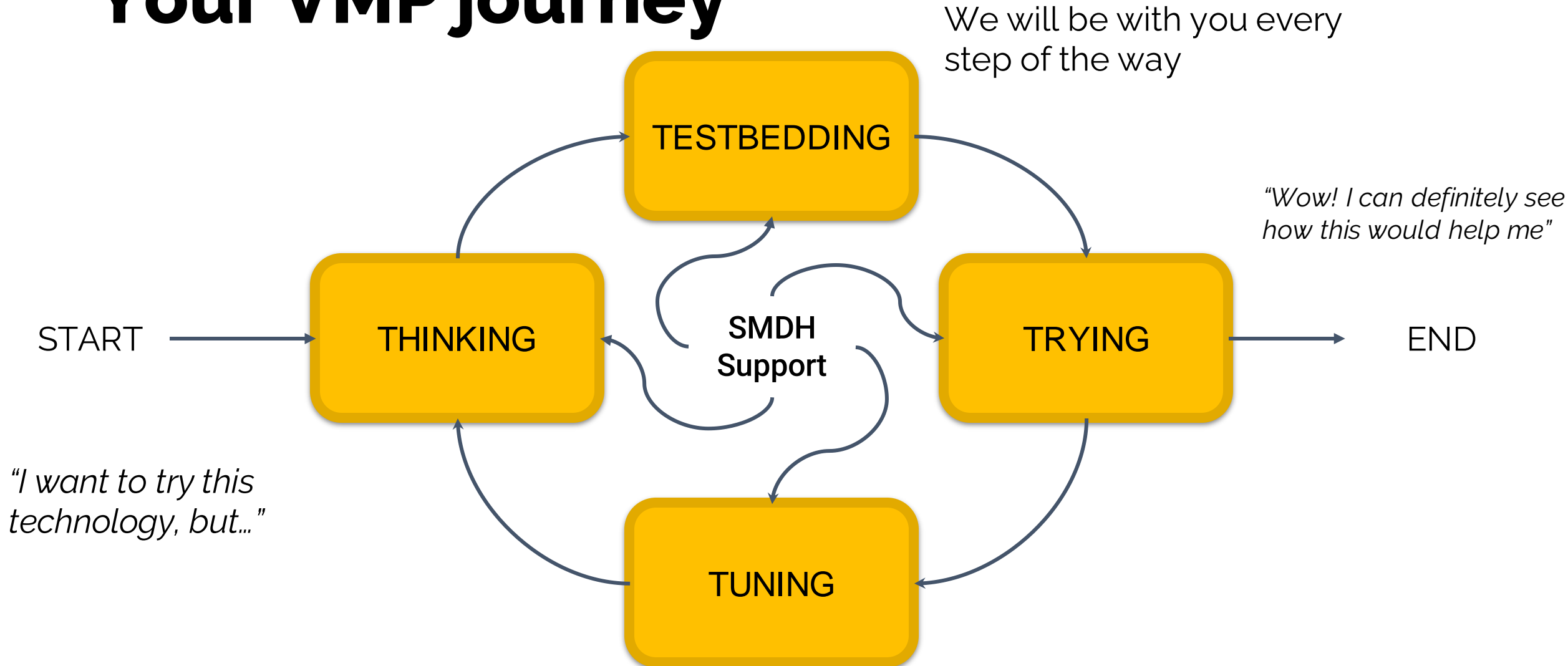
We are currently offering 7 testbeds.

All are virtual, some have physical twins.

Each testbed has 50+ designed de-risking scenarios



Your VMP journey

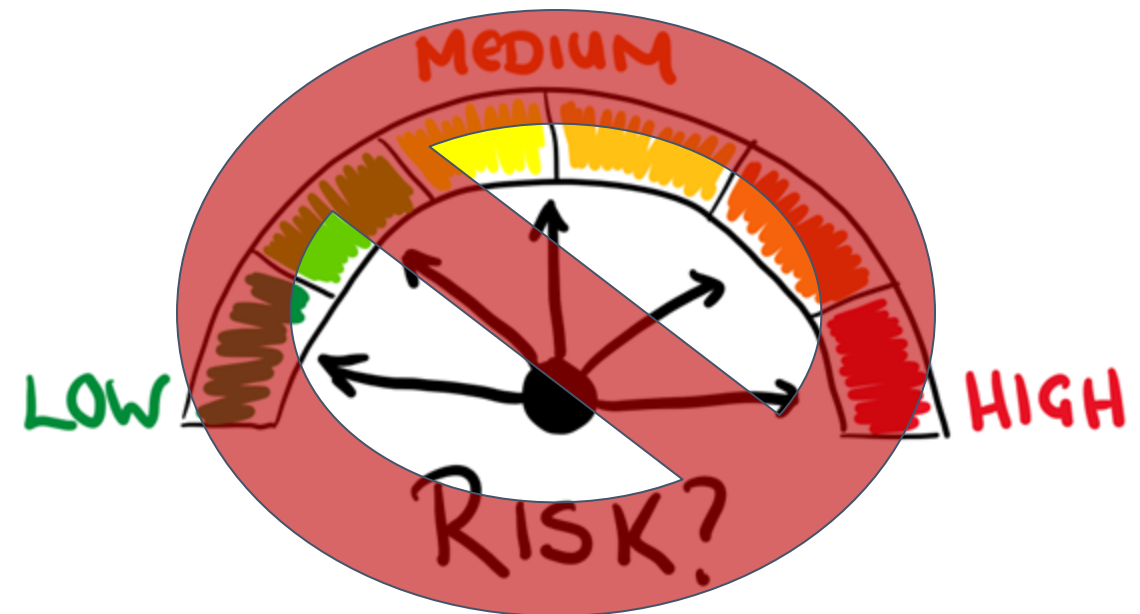


Virtual Manufacturing Platform

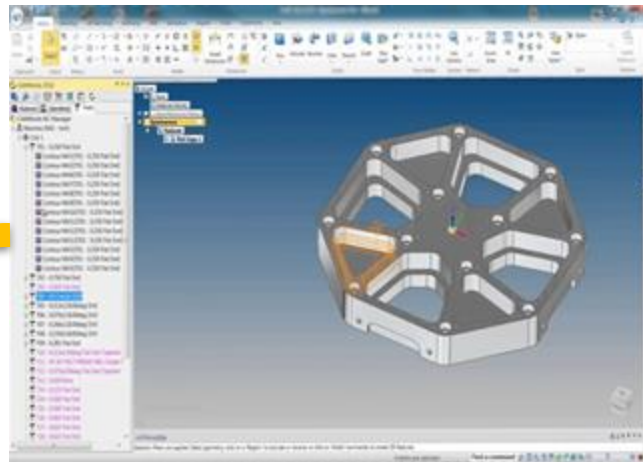
With the VMP you don't need to start up, to get started.

Everything you need is already waiting for you, installed, configured, and ready to play.

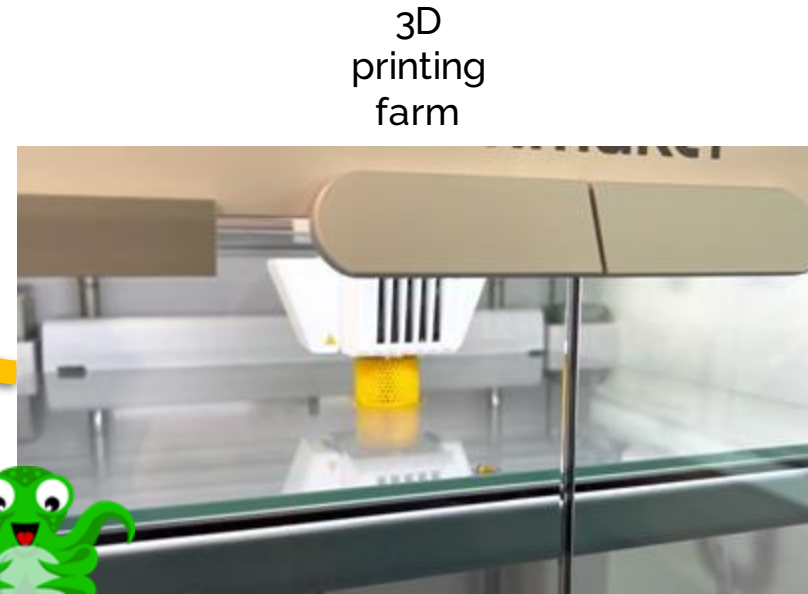
De-risking technology has never been so easy



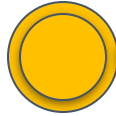
Additive Manufacturing VMT



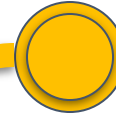
3D
Modelling
Software



3D
printing
farm



START



END

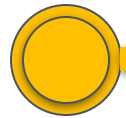
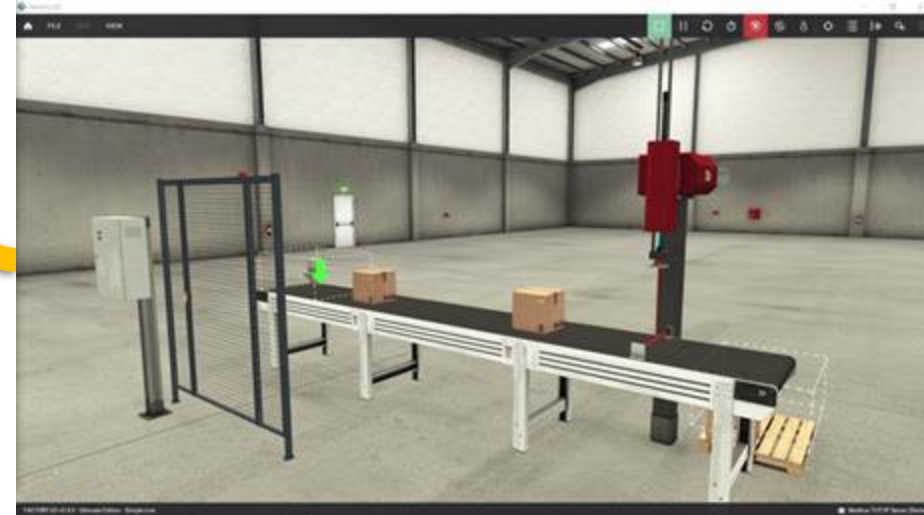
SIEMENS
SOLID EDGE



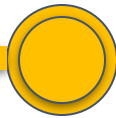
System Automation VMT



Physical/Simulated
Factory Testbed



START



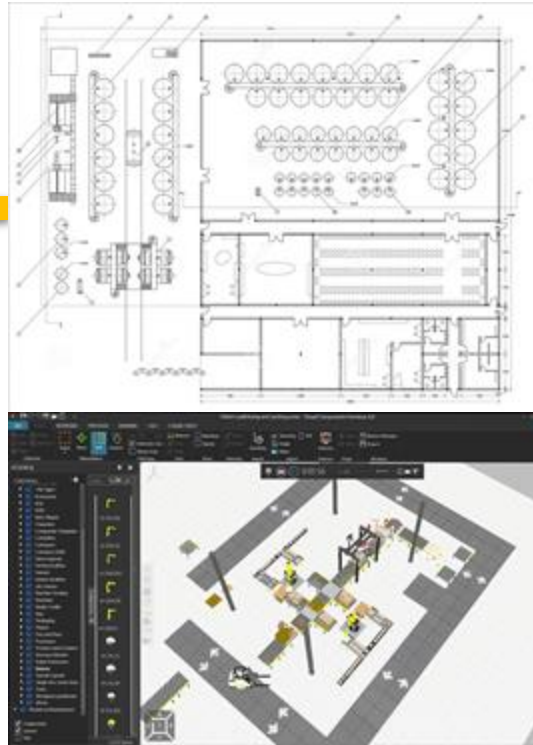
END



Virtual
Factory
PLC
Control

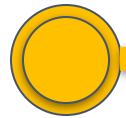
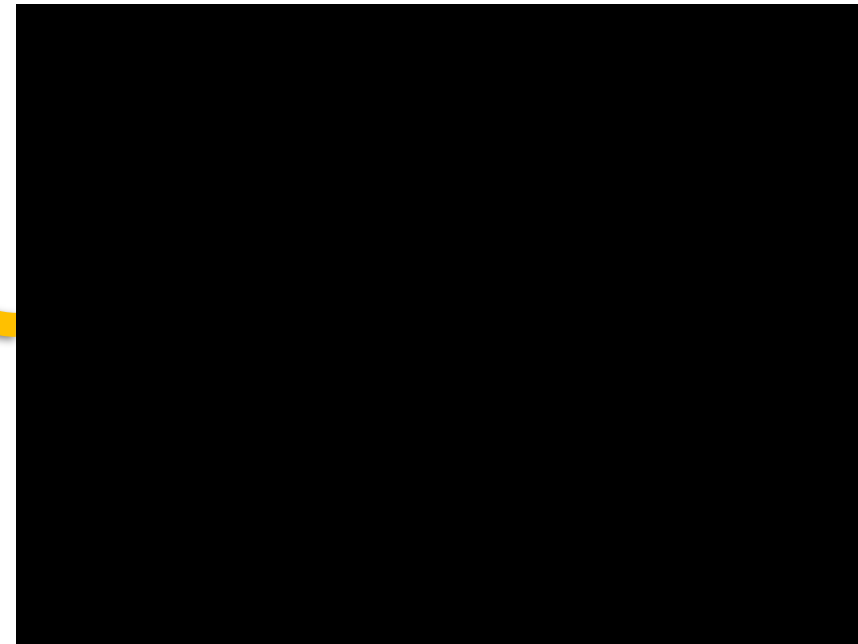
Open Industry Standard

Flexi-production Line VMT



Factory 2D/3D Planning

Simulated 3D
Factory Testbed



START



VISUAL
COMPONENTS

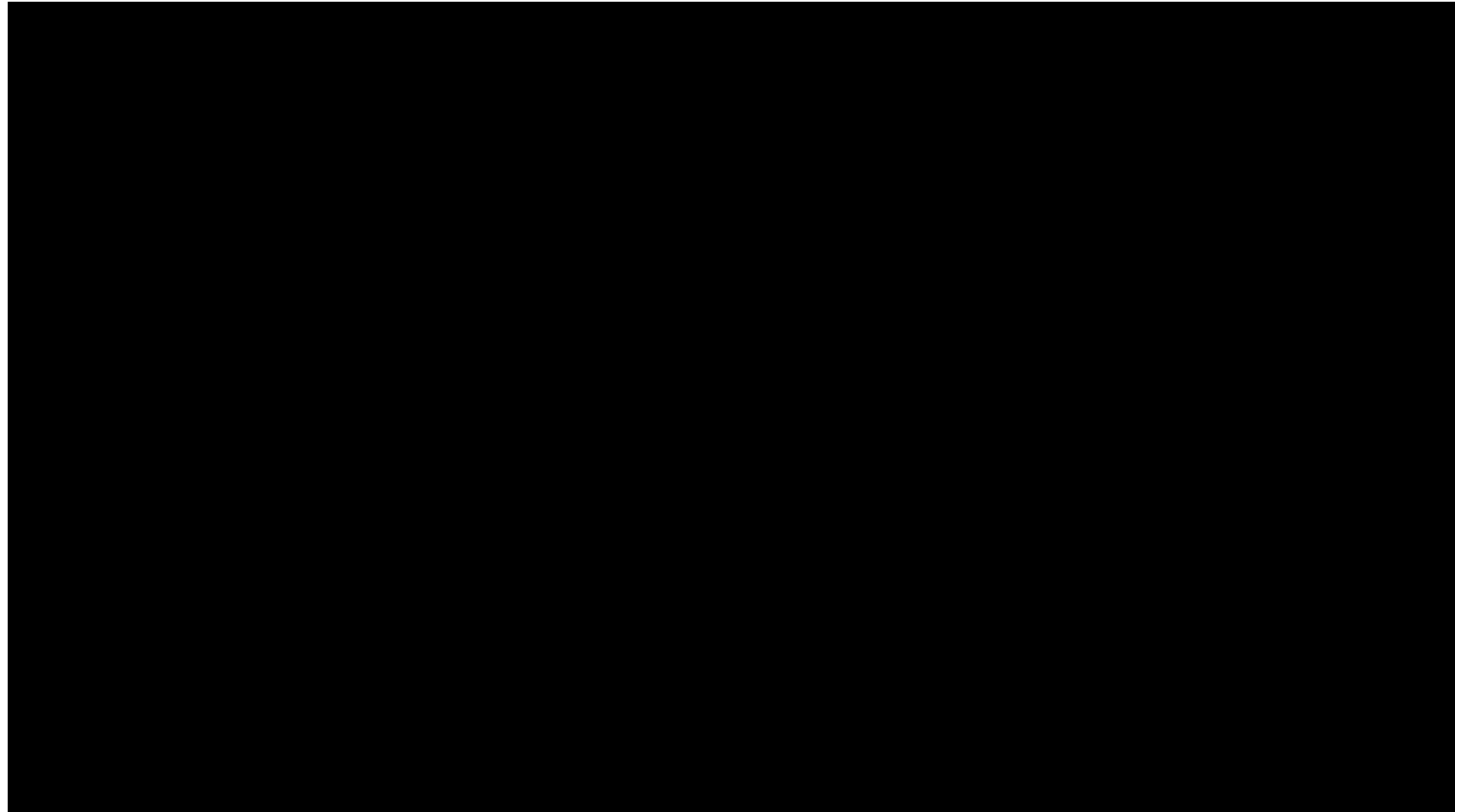


Open Industry Standard



END

- Login with SSO
- Exploring the VMP landing page
- Browsing the catalogue
- Interacting with available VMT advertised
- Launch the robot automation VMT
- Uploading a pre-made palletising task and running it virtual
- Accessing a physical robot and running the same palletising task



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Training Academy

The SMDH Academy

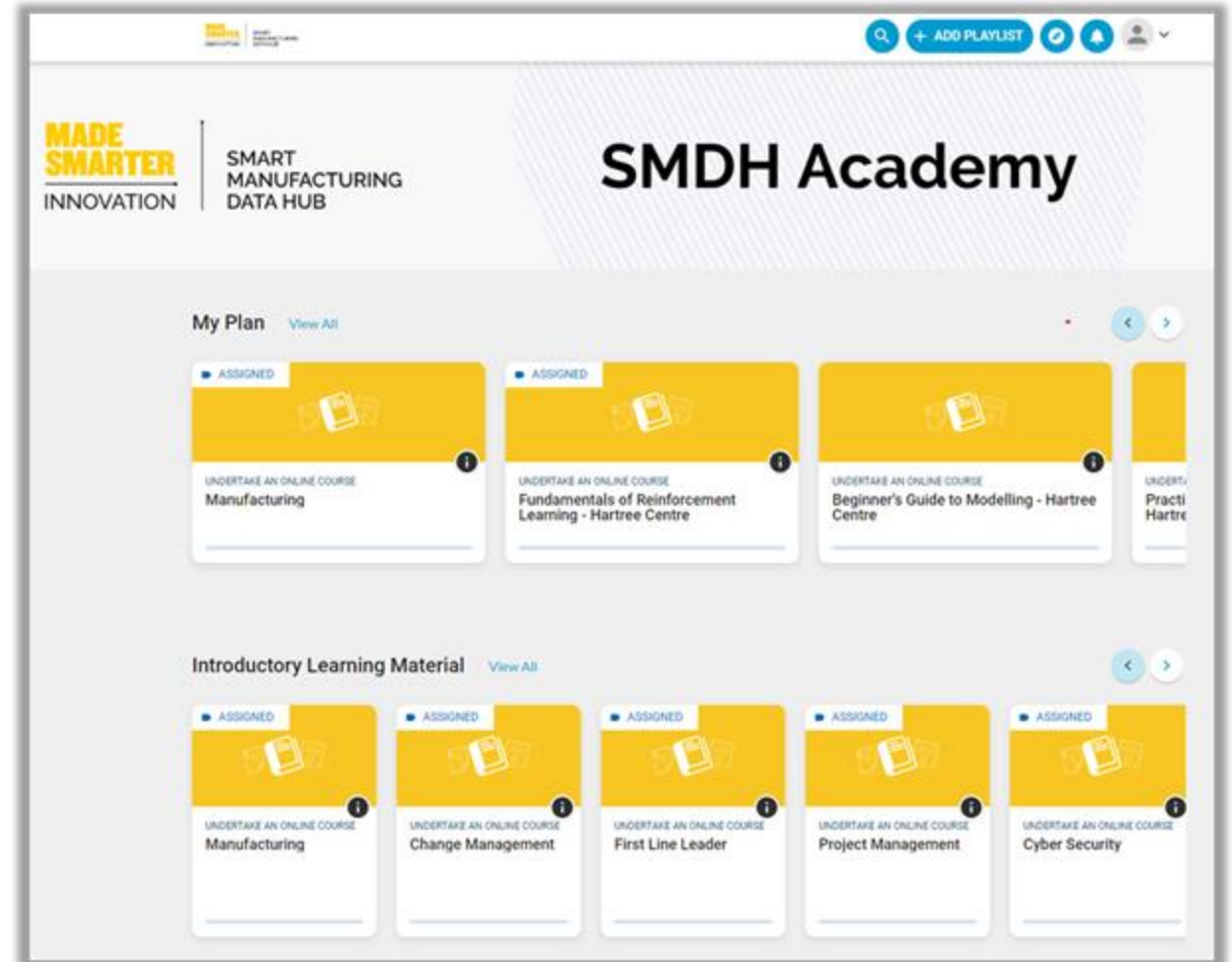
A learning experience platform that provides **data and digital training** to enable SME's and their workforce to **learn and upskill** by providing them with a wide range of **training content**.

SMDH Academy will include:

- Data Roles
- Digital Roles
- User Personas
- Training Pathways

Content has been designed in a **'microlearning'** format.

- You decide what to learn
- You decide when to learn
- You can complete your training at a time and place that suits your busy schedule



DATA DRIVEN DIGITAL TRAINING & SUPPORT TOOLKITS ... empowering leaders, workforce upskilling & training the future

Encouraging, empowering & equipping **LEADERS**



USE CASES /
BENCHMARKING



ROADMAPS &
DIAGNOSTICS



STRUCTURED PATHWAYS



TRAINING STANDARDS



DATA DRIVEN
COMMUNITY BUILDING



TRAINING MARKETPLACE

Defining **DIGITAL ROLES**



DIGITAL
AMBASSADOR



DIGITAL
CHAMPION



DIGITAL
ENGINEER



DIGITAL
USER

GROWING an army of data driven **DIGITAL CHAMPIONS**

DATA
SCIENCE &
ANALYTICS
SKILLS



DIGITAL
MANUFACTURING
TRANSFORMATION
SKILLS

INDUSTRIAL
DIGITAL
TECHNOLOGY /
ENGINEERING
SKILLS



Defining **DATA ROLES**



DATA
ENGINEER



DATA
SCIENTIST /
ANALYST



DATA
CHAMPION



DATA
USER

Developing a data driven digital **LEARNING EXPERIENCE PLATFORM**



DATA / DIGITAL ROLES &
PERSONAS



SKILLS
SETS



TRAINING
PATHWAYS



LEARNING MANAGEMENT
SYSTEMS

Enabling a collaborative **LEARNING APPROACH**



TASTER / INSIGHT
WORKSHOPS



MASTERCLASSES

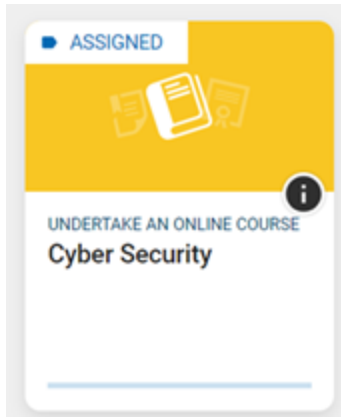


BOOTCAMPS

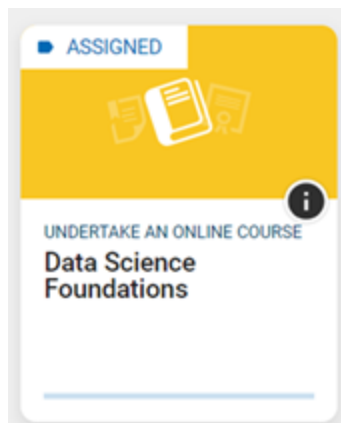
Introduction to SMDH Academy Courses

Course Name

What you will get from this course



Acquire the knowledge and skills necessary to safeguard yourself against online fraud and effectively respond if you become a target. Stay up-to-date on the latest cybercrime and malware threats, learn how to recognize and evade potential risks.



This course provides an introduction to data science, including a comprehensive overview of Python programming. By the completion of the course, you will gain familiarity with the Python development environment and be capable of utilizing the techniques taught in this module.



Learning Experiences

Learning experiences (LX's) are activities undertaken by learners to **improve their knowledge**, such as reading an article or completing an e-learning course.

Undertake an Online Course

Undertake a Face-to-Face Course

Brainstorm or Think

Read a Book

Listen to a Podcast

Become a Coach

Read an Article

Listen to an Audiobook

Ask for Feedback

Attend a Webinar

Watch a Video

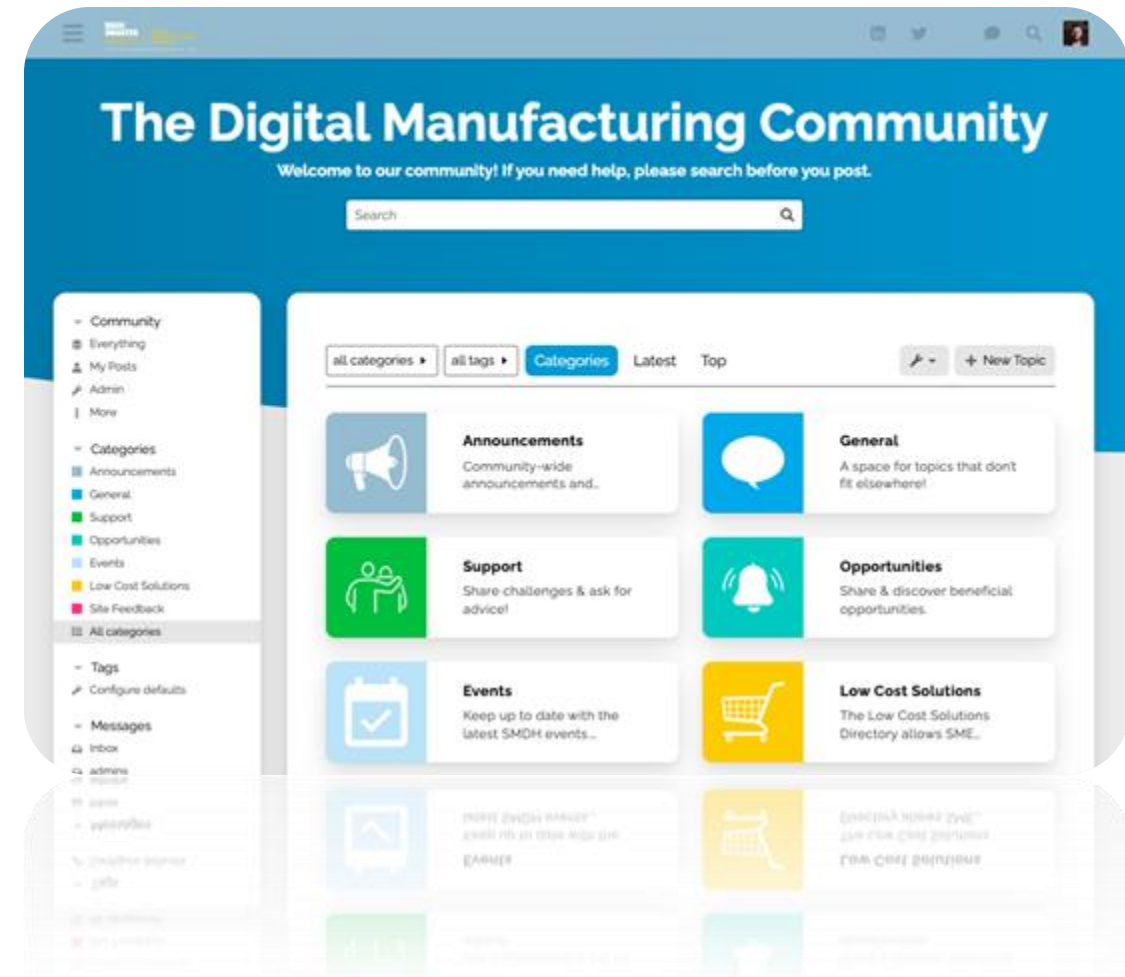
Ask a Peer

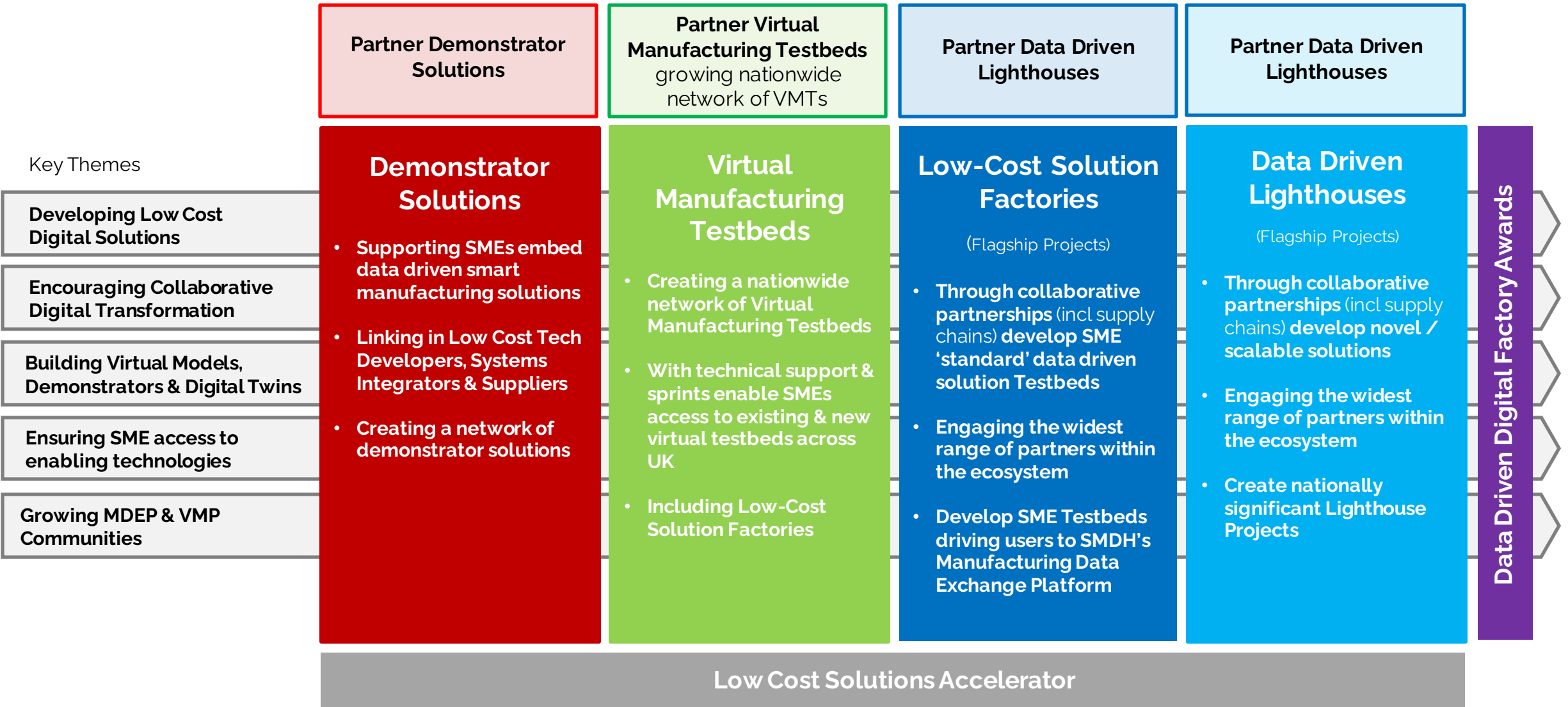
The SMDH Digital Manufacturing Community

An interactive online hub, bringing together the SME Manufacturing eco-system.

- Access an **extensive network of peers** & suppliers.
- Learn best practice from **experts, advisors & mentors**
- Share challenges, get **support & guidance**
- Discover **events & opportunities**
- Keep up to date with the **latest innovations & trends**.

<https://community.smdh.uk/>







Get support - whether you are a small, medium or large business – there's an opportunity to get involved



Harness the value of data in your factory and **optimise production**



Secure funding through the Digital Innovation Fund to adopt smart manufacturing solutions



Up-skill and engage your workforce.. create a **Digital Champion** in your organisation for long term success



Work with low-cost **Technology Developers, Systems Integrators & Solution Suppliers**



Become an SMDH **Digital Ambassador**, encouraging businesses in your sector, industry or place



Add your **Virtual Manufacturing Testbed** to the nationwide network and encourage SMEs to innovate



Develop collaborations and build **Lighthouse Projects** developing novel technologies and solutions

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Start your Digital Journey with the Smart Manufacturing Data Hub

Learn more

www.smdh.uk