BENTLEY

BELIEVE BEST BEYOND

Digital Transformation Skills

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Digital Transformation: What is the LEP Bid?

Skills Growth Funding

- LEP, Employers & Chester University

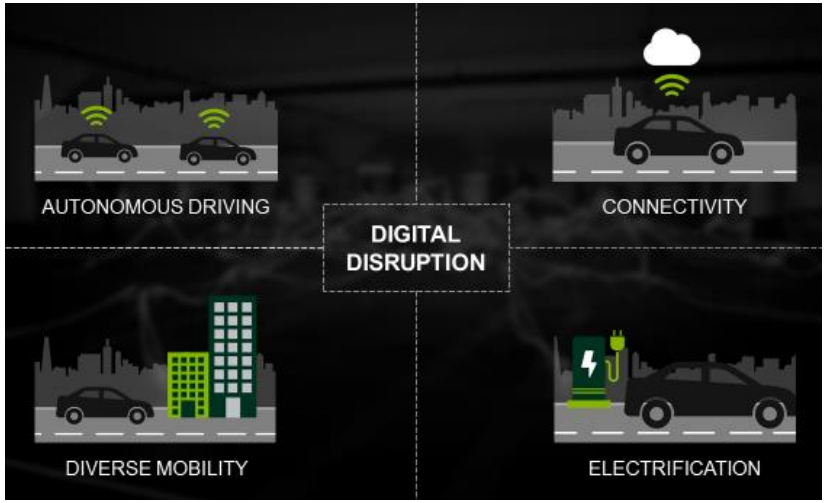
£30 million available

- 19,000 employee reach across Cheshire & Warrington (cross employer training opportunities must be identified – must not be specific to Bentley Motors)

- Training should be industry agnostic, as need will be common and there are additional benefits to cross-sector collaboration in training.
- Builds depth of talent pool for the region.

Digital Transformation: The Challenge

- The automotive industry, as many other industries, is facing disruption from a number of different areas underpinned by digital technology. It will affect all areas of the business.
- As a traditional company, we recognise we need to both upskill existing employees and attract new talent with digital skills.
- Access to training programs, at multiple levels of depth from basic awareness to deep understanding, is vital.
- There needs to be a depth to the talent pool, as we will not be alone in requiring these skill sets in the future.



Digital Transformation: Bentley Response

Digital skills audit

1. Asses which skills will be needed to support digital transformation

Hierarchy of understanding

2. Define levels of expertise required, from awareness to deep understanding.

Capability Heat map

3. Map immediate and future requirements, based on horizon scanning across the business, against the skills and levels. Repeat regularly.

Recruit and upskill

4. Plan recruitment and training plans to respond to the heat map. **New training materials will be required, as well as developing a new talent pipeline.**

1. Digital Skills Audit

BENTLEY

Coding
App/API Development
Software Development
Software Testing

UX/UI
User Experience
User Interface

Data Analytics
Big Data
Data Science

AI
Machine Learning
RPA
Robotic Process Automation

VR / AR
Virtual Reality
Augmented, Mixed Reality

Sensors, IoT
Smart Manufacturing
Smart Infrastructure
Internet of Things

Additive Manufacturing
3D Printing, Additive Layer Manufacturing

Cyber Security
Network security
Connected Car security

Robotics
Programming and maintenance
Co-Bots

Agile Mind set
Design Thinking
Customer Centred
Entrepreneurial skills

Digital-Analogue Interface
Wood, composites

Distributed Ledger Technologies
Blockchain

Computer Literacy
Email & MS Office
Web browsing

Industry 4.0

2. Hierarchy of understanding & the skills gap

Dedicated Resource

Upskill in role

L8/PhD (KTP or CASE)

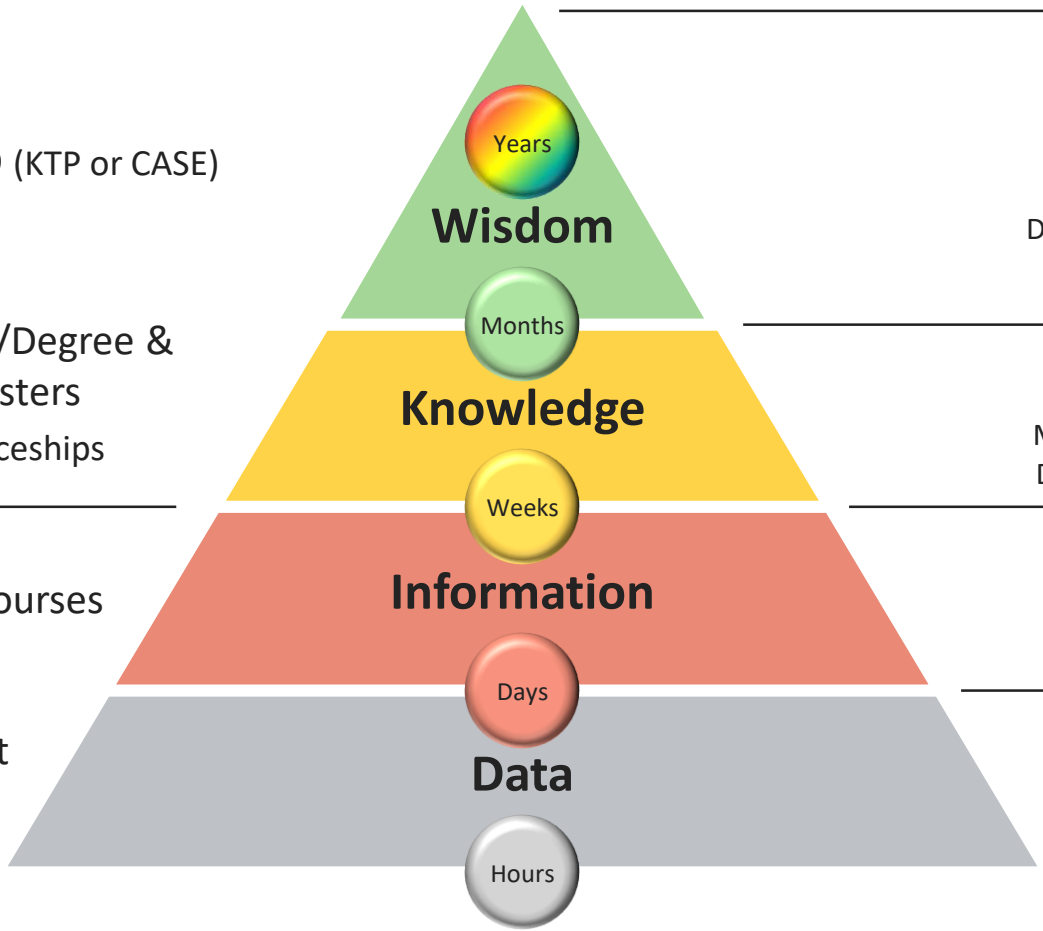
L4/BTEC, L6/Degree & L7/Masters

Apprenticeships

Awareness courses

Digital Mind set

snapshot of course



Tier 1: 1-2 People per topic

Very Deep Understanding
Development of New Solutions

Tier 2: 5-10 People per topic

More In-Depth Understanding
Design of Products & Services

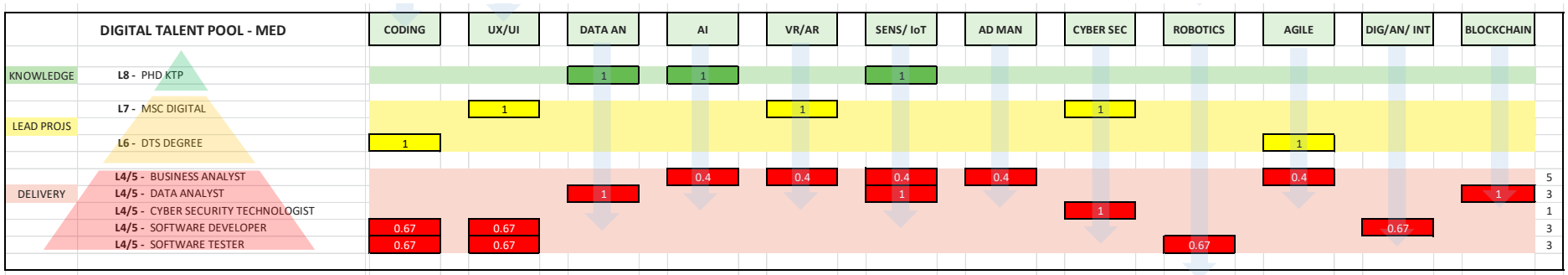
Tier 3: 30+ People per topic

Basic Training
Procure Products & Services

Tier 4: Everyone

E-Learning
Awareness of Technology

3. Capability heatmap



- Completed Q4-2018 to define 2019 recruitment and training requirement.
  - PhD level x3
  - Digital Apprentices x12
  - Internal training requirements (upskill and awareness)

Digital Transformation Skills

BENTLEY

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VR / AR
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Sensors, IoT
Smart Manufacturing
Smart Infrastructure

Additive Manufacturing
3D Printing, ALM

Cyb[illegible] Se[illegible]ity
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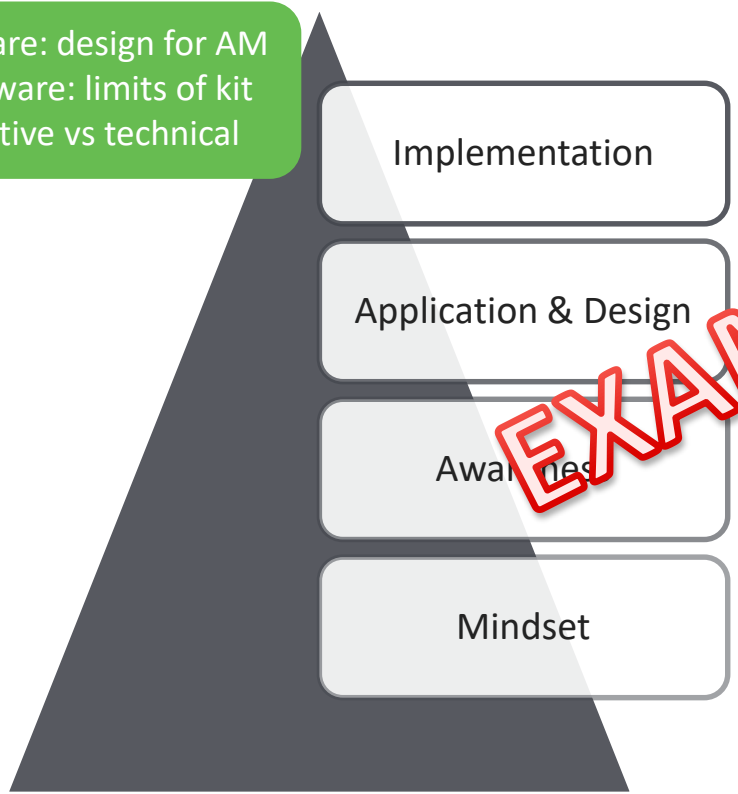
EXAMPLE

Additive Manufacturing (AM) – Pyramid within a Pyramid

- Software: design for AM
- Hardware: limits of kit
- Creative vs technical



Training Type	Need	Volume	Source
PHD or expert level qualification	Up-to-date, ready to implement new solutions	1-2 @ Bentley	KTP or CASE with leading University
Degree or apprenticeship level qualification	Hands on experience in popular and Bentley specific programming	3-4 @ Bentley (upskill + new talent)	Recognised qualification delivered by training partner
Short course on material capability, design guidelines	Understanding of process, awareness of potential application	20-30 @ Bentley	Local training partner
eLearning	Overview of AM, benefits and limitations	500-1,000 @ Bentley	Industry standard material, hosted on eAcademy

Any kit elements?
Access to basic design tools (PC + Autodesk software) and AM desktop printing machines. Training material to inform and inspire, including hands-on exercises to spark creativity,

Additive Manufacturing (AM) – Capability Network

Bentley	**Objective**: Identify internal centre of competence, and network across all business areas. Inspire new applications, and link technology as potential solution to existing challenges.
Academia	**Objective**: Collaborate with leading academic institutions to develop training material and programmes, access thought leadership, and understand state-of-the-art and future potential.
Catapult	**Objective**: Build relationships with Research & Technology Organisations, such as Government funded Catapults, to leverage latest technology and develop proof of concepts.
Industry	**Objective**: Collaborate with industry (cross-sector) to share best practice, and raise awareness of cutting edge technology.
Talent	**Objective**: Partner with local and regional schools to inspire next generation of talent. Link to apprentice recruitment programmes and recruitment fairs.

EXAMPLE