Case Study:

Preparing Further Education for the Next Technological Revolution and the Digital Economy

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South Devon College

'Inspiring our community through learning for all'

- South Devon College is located in Torbay, Devon
- Delivers outstanding teaching and learning to the semi-rural community which includes Torbay, Teignbridge, South Hams and the wider Devon-area
- 'Outstanding' rating by OFSTED
- Courses are available for 14 year olds upwards
- Broad range of further education, apprenticeships, higher education and short courses
- Key aim to meet the needs of the local community and employers
- Campuses in Paignton, Newton Abbot and at Noss on the River Dart
- The exceptional environment and state-of-the-art facilities include brand new, award winning Energy Centre and a dedicated University Centre

Skills Gap

What will it mean for you?

What will it mean for you?

Impact of Technology

"We are currently preparing students for *jobs* that <u>don't</u> yet *exist*"

"Are we currently preparing students for *jobs* that <u>will</u> not *exist?*"

MIND THE GAP

What will it mean for you?

South Devon College

The Effects of Technology

MIND THE GAP

What will it mean for you?

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TORBAY'S HI-TECH SECTOR THE LEADING LIGHT

DELIVERING WORLD CHANGING TECHNOLOGY

IN TORBAY & SOUTH DEVON

Torbay is nationally recognised by industry as one of the top locations for electronics and photonics expertise in the country, and has a strong growing cluster.

Key companies within Torbay and South Devon include specialists in advanced manufacturing, electronics, photonics, optical coatings, GNSS, fibre optics, RF & wireless manufacturing:

OVER 960 FTE directly employed in the electronics & photonics industry in Torbay and South Devon

EXCESS OF £108M generated per annum

OVER 50% of which is exported to 15 countries spanning all 6 continents.

AREAS WHERE TORBAY HAS PARTICULAR STRENGTHS ARE:

- Optical Systems
- Medical technology
- Manufacturing technology
- Defence
- Satellite technologies

IN THE SOUTH WEST

HOME TO the largest concentration of silicon designers in Europe and only second to Silicon Valley in the USA.

ESTIMATED 715 companies based in the South West

AROUND 8,700 employed in the electronics, sensors & photonics industries.

Clusters around **BRISTOL BATH SOUTH GLOUCESTERSHIRE SOUTH DEVON**

IN THE UNITED KINGDOM

MORE THAN 8,000 companies in the electronics, sensors and photonics industry

AROUND £29BN generated a year in revenues

OVER £12BN contributed per year to the UK economy

OVER 70,000 people employed in this sector

ESTIMATED 8-10% growth annually for the next 10 years

UK PHOTONICS INDUSTRY produces lasers for manufacturing, entertainment, computer chips, transmitting information, 3D printing, measurement, sensors and healthcare.

EVERY EURO FIGHTER TYPHOON CONTAINS COMPONENTS MANUFACTURED IN TORBAY

46% OF LARGE COMMERCIAL AIRLINERS CONTAIN ELECTRONIC COMPONENTS FROM TORBAY

TECHNOLOGY DEVELOPED IN TORBAY EXTENDS AS FAR FROM PEOPLES POCKETS TO THE OUTER EDGE OF SPACE.

OVER 1.3M ELECTRONIC COMPONENTS PROCESSED IN TORBAY HAVE BEEN USED FOR EMBEDDED LIFESAVING APPLICATIONS

LEADING R&D FOR MICROELECTRONIC COMPONENTS IN HARSH ENVIRONMENTS

-55°C TO 225°C

"IF GENERAL MOTORS HAD KEPT UP WITH THE TECHNOLOGY LIKE THE SEMICONDUCTOR INDUSTRY, WE WOULD ALL BE DRIVING $25 CARS THAT GOT 10,000 MILES TO THE GALLON"
Bill Gates

SUPPORTED BY LEADING UNIVERSITIES:

- University of Exeter – Centre for Additive Layer Manufacturing
- University of Plymouth – The Electron Microscopy Centre
- University of Bath – Lab for Integrated Metrology Applications
- University of Cambridge – Institute of Manufacturing

CUSTOMERS INCLUDE:

- Bosch
- Canon
- Fujitsu
- Hitachi
- NEC
- Panasonic
- Ricoh
- Cisco
- Ericsson
- Huawei
- Nokia Siemens Networks
- BT
- Motorola
- Google
- Dell
- HP
- AMD
- Intel
- European Space Agency
- NASA
- Airbus
- Rolls Royce

ENGINEERING BASE FOR:

- Gooch & Housego
- Elektron Technology
- Waveguide Solutions
- Valeport
- Sub 10 Systems
- Select Group of Companies
- Eurotech
- Alpha Contract Engineering

R&D BASE FOR:

- II-VI Lasers
- Oclaro Technology
- Gooch and Housego
- Spirent Communications
- Effect Photonics
- Venture Photonics

TDA

What will it mean for you?

…that more companies are turning to digital technology to help bolster their finances.

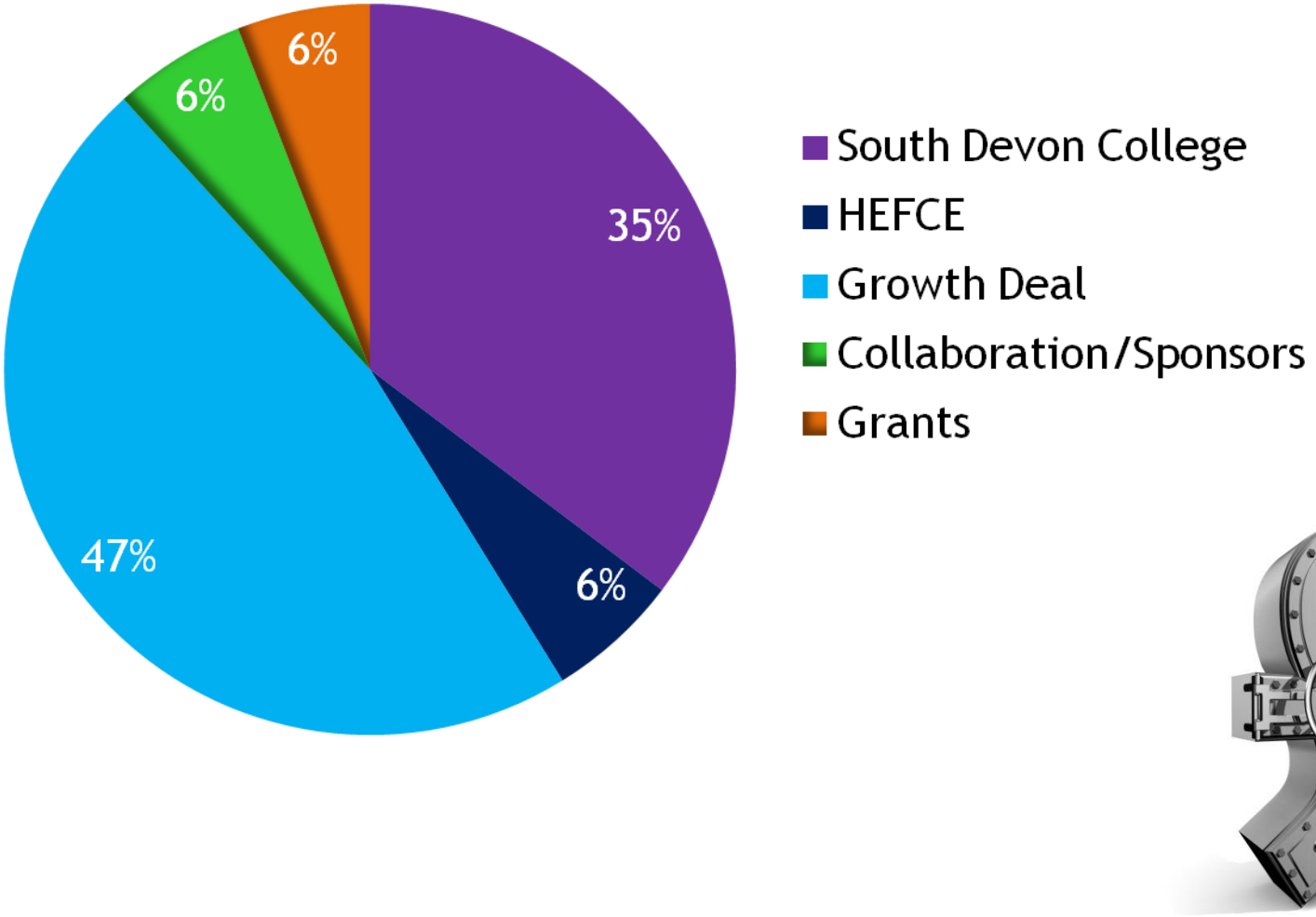
What will it mean for you?

Hi-Tech & Digital Skills Centre

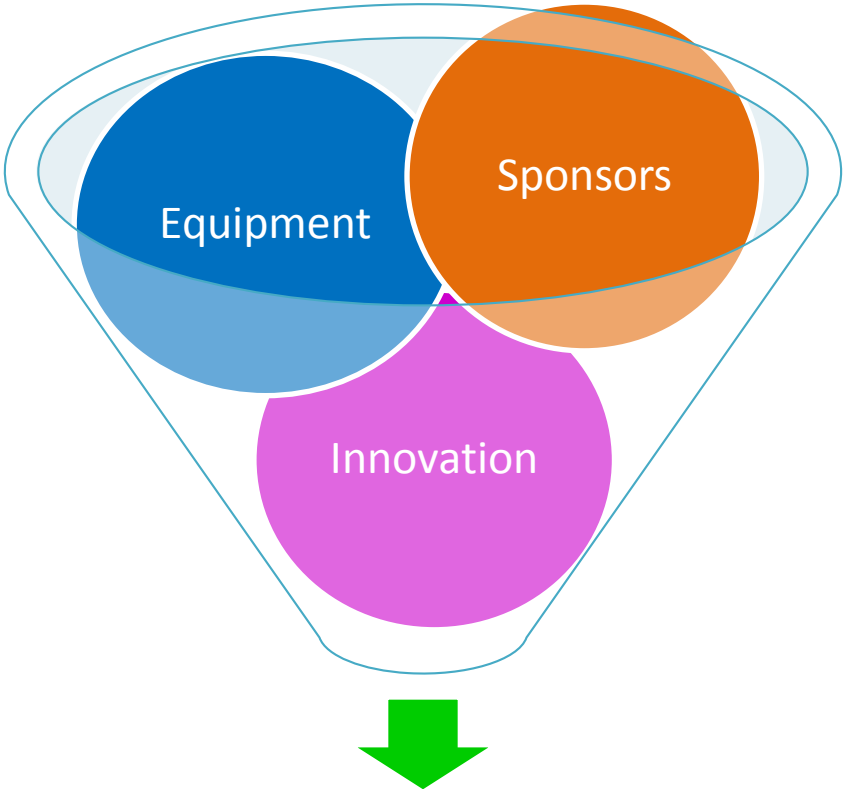
Aims & Objectives

- Closing the skills gap
- Long-term skills strategies for the region
- A highly desirable and inspirational venue for learning
- A vibrant and flexible education system
- Developing strong industry relationships
- Centre of Excellence for delivery
- Anticipating future demand and innovation
- Work with partners influencing all levels and progression
- Support & inspire local community, schools and business

£17m Multi-Partner Investment



Partners Sought



Skills and Capacity for Economic Growth in Devon

Existing Stakeholders & Interests

Curriculum Map

Hi-Tech Skills Centre

Academic & Technical Excellence

Higher Education
HNC, FdSc, Level 6 Degree, Higher Apprenticeships

Higher Skills Training
Technical Modules, Leadership & Management, Innovation

Direct Entry

Full Time Level 3
16/19,19+,24+
Level 3 [Tech Bacc] Study Programmes, Access to Higher Education & Training

Apprenticeships
16/19,19+,24+
Intermediate & Advanced Level Frameworks

Commercial Activity
Short Course, Adult Provision, Skills Development Programmes, Transferable Skills

Direct Entry

Full Time Level 1/2
16/19,19+,24+
Essential Skills, Multi-Skilled Pathway Study Programmes, English & maths

Pre-16
14/16
High School, UTC, Universal Curriculum, Re-engagement, Youth Academies, School Engagement

Curriculum Development

STEM

Science, Technology, Engineering & Maths

The Fusion Effect

The benefits of combining arts and science skills

STEAM

Science, Technology, Engineering, Arts & Maths

Our new study found that 'fused' companies show eight per cent higher sales growth, and are more likely to bring radical innovations to market, compared to science-only firms.

http://www.nesta.org.uk/

The Fusion Effect

- Evidence to suggest that firms combining these skills are **more likely** to **grow in the future**, are **more productive**, and are **more likely to produce radical innovations**
- While fused firms are widely perceived to be present in 'high-tech' and creative industries, we find them to be common in 'low-tech' and 'mid-tech' industries too
- We find that firms combining arts and science skills, other things being equal, **outperform** those firms that utilise only arts skills or science skills
- They are 3 per cent more likely to **bring radical innovations to market**
- They show 6 per cent **higher employment growth** and 8 per cent **higher sales growth** than other firms

http://www.nesta.org.uk/

Resource Investment

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Engagement with the New Generation

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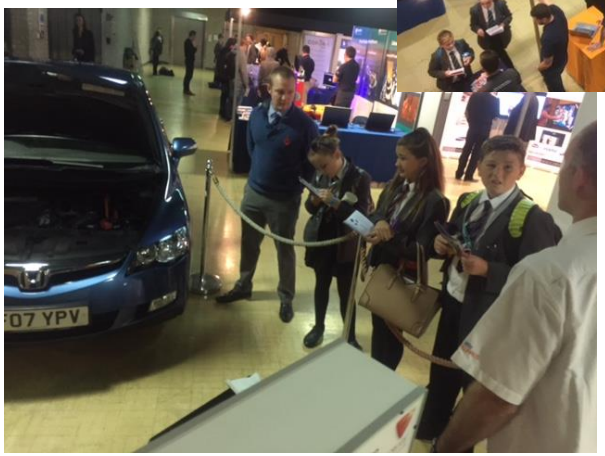


The T&L Environment

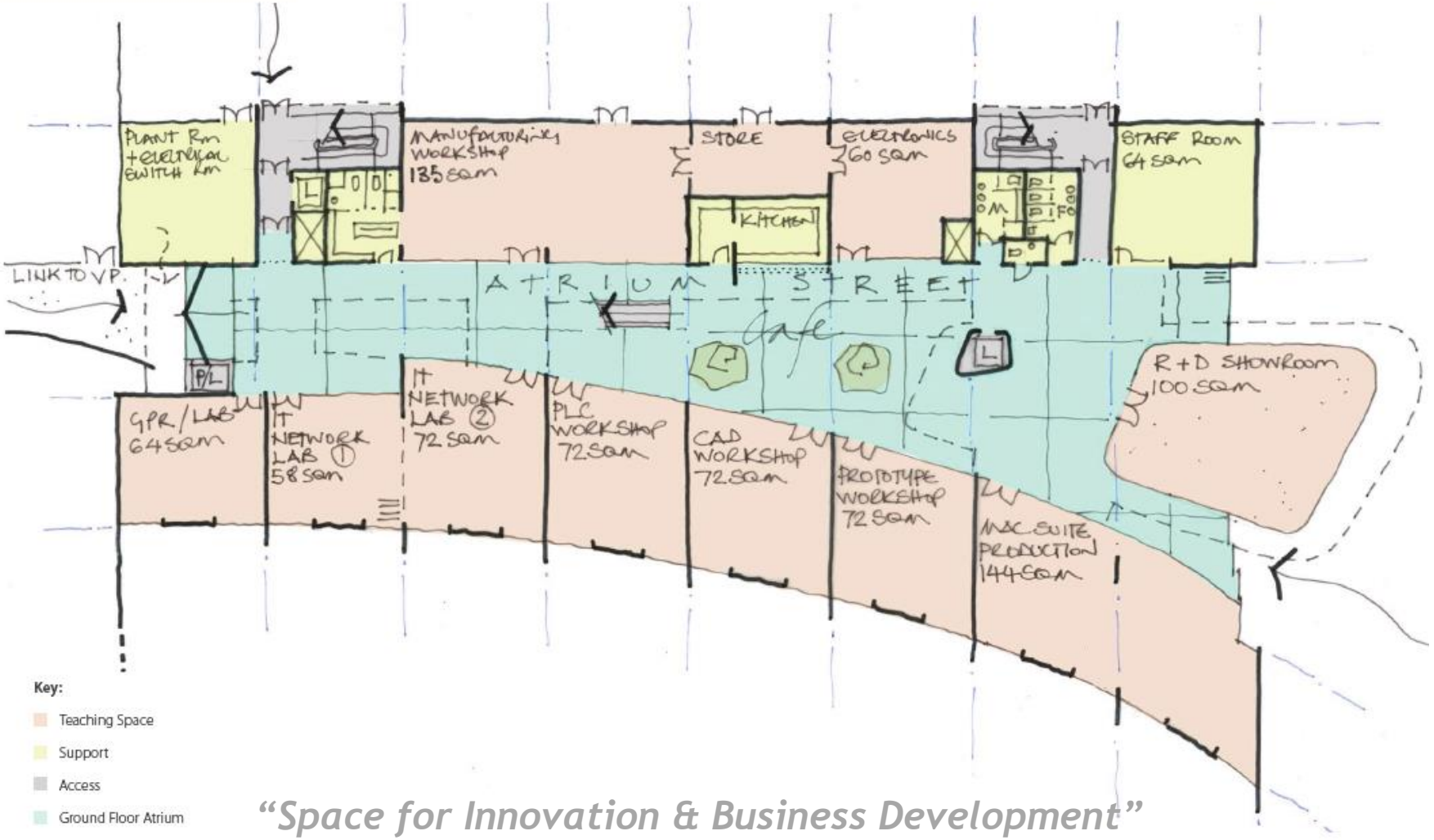
For a multi-media and multi-tasking world accessed 24/7

- **Designed for the Millennial Generation.**
- **Learning by conversation.**
- **Flexible, convertible spaces.**
- **High quality informal spaces for focus work & collaborative work.**
- **Space for Innovation & Business Development.**
- **End to End 'Makerspaces': transparency of processes.**
- **Specialist learning areas.**
- **A self-service enabled facility (remote frequency identification).**
- **Showcase student work.**

Hi-Tech Skills Centre

South Devon College

Ground Floor Layout



"Space for Innovation & Business Development"

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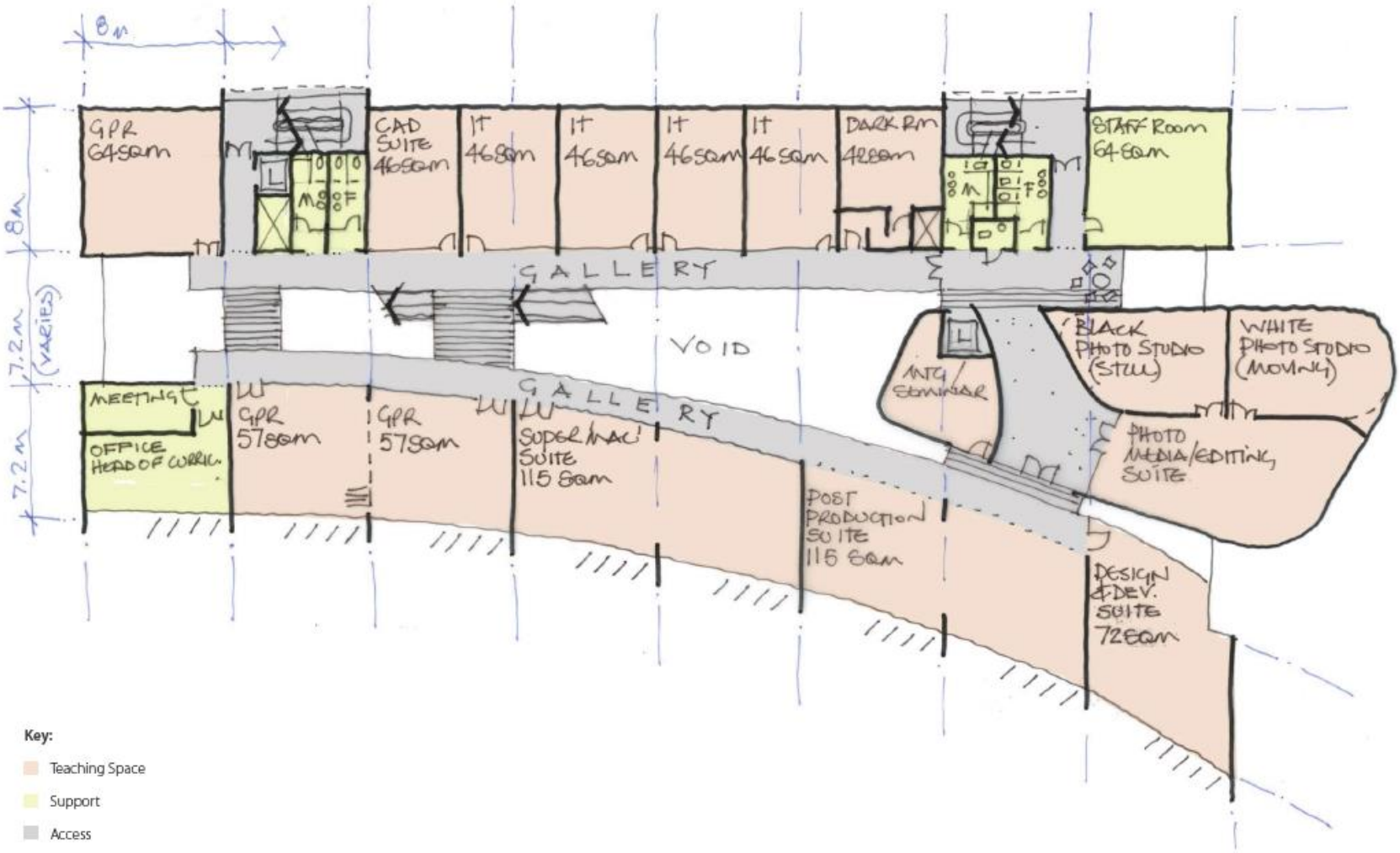
First Floor Layout



Hi-Tech Skills Centre

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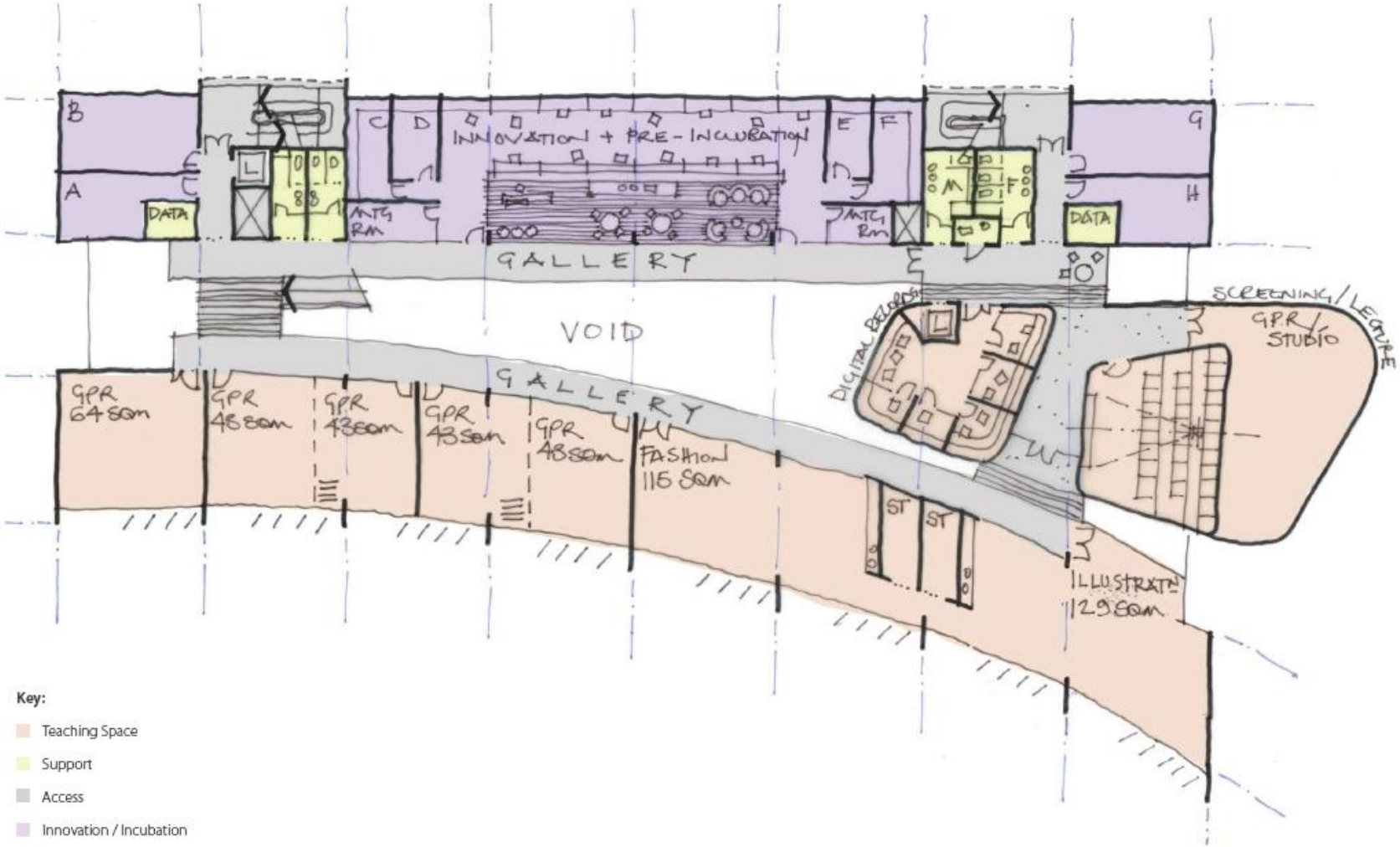
Second Floor Layout



Thank you

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