كلّيــــــات التقنيــــة العليــــا
مركـــــز الـــــتفوق للأبحـــــاث الـــــتطبيقية والـــــتدريب

Higher Colleges of Technology
Centre of Excellence for Applied Research and Training

Centre of Excellence for Applied Research and Training- CERT

FAHR International Conference 2019 - 4IR
17-18 April, 2019

Introduction

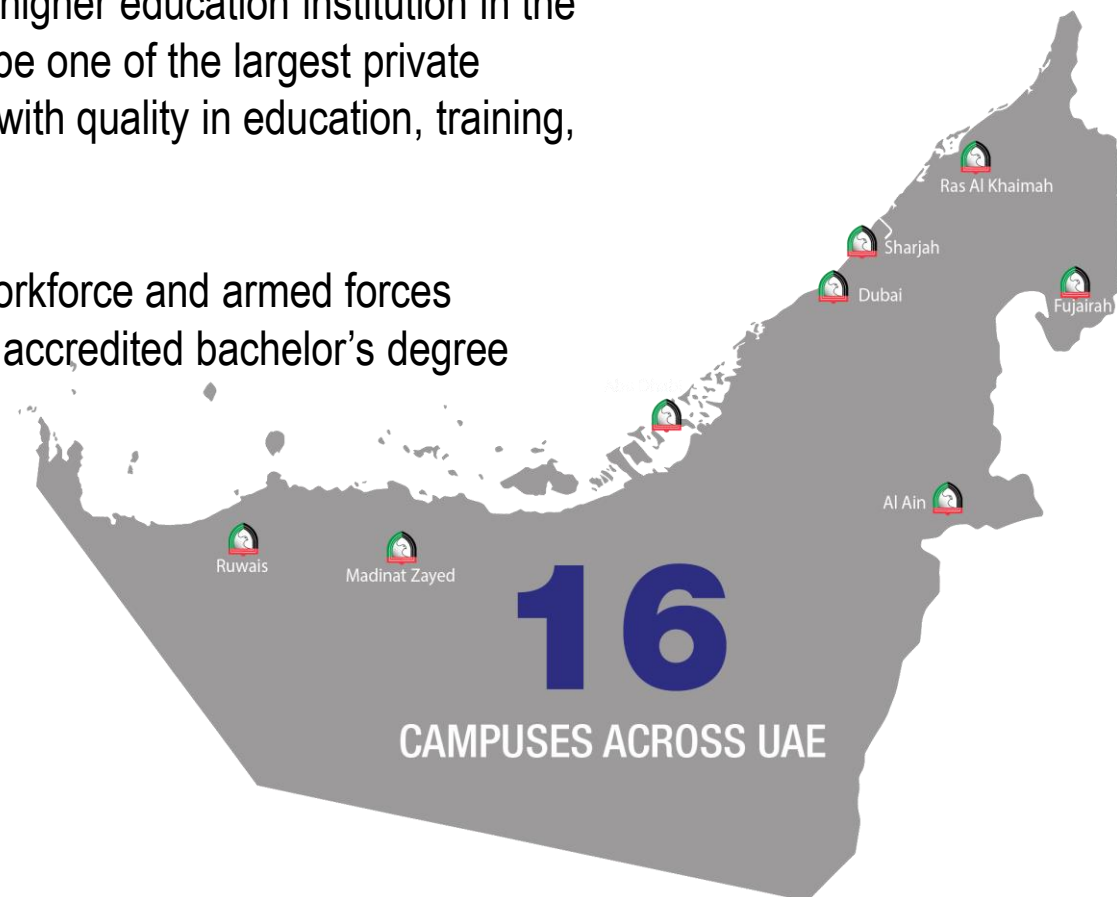Topic Area: Human Capital Sustainability in the 4th Industrial Revolution

Specific Topic Focus: "Re-skilling & Up-skilling the Local Workforce for Artificial Intelligence-Related Jobs"

Speaker: Dr. Daniel C. Daoust
Chief Officer – Learning and Special Projects
Center of Excellence for Applied Research & Training (CERT)

About CERT

CERT is the training and commercial arm of HCT, which is the largest higher education institution in the United Arab Emirates. Since its creation in 1996, CERT has grown to be one of the largest private education providers in the Middle East and has become synonymous with quality in education, training, research, and socioeconomic development.

CERT has extensive experience servicing the needs of our nation's workforce and armed forces professionals. From bespoke language programs, up to and including accredited bachelor's degree programs and everything in between…

FOUNDED IN
1996

30,000
GRADUATES

300
FACULTY AND STAFF

Ras Al Khaimah

Sharjah

Dubai

Fujairah

Al Ain

Ruwais

Madinat Zayed

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CAMPUSES ACROSS UAE

Learning Objectives

1. Become familiar with the changing job landscape in the UAE for the local workforce, brought on by automation and digitalization by 2031
2. Understand the Knowledge-Skills Gap in the Local Workforce for the evolving AI-Related Jobs Sector
3. Understand the importance of collaboration within the "Triple Helix" of Government, Academia & Private Sector, in order to address this AI Knowledge-Skills Gap.
4. Consider a model for Local Workforce Re-skilling & Upskilling for the Artificial Intelligence-Related Jobs Sector with the following attributes:
   - Assessments; General Workplace Skills; Foundation Digital Skills; AI-specific Skills Tracks
   - Non-Theoretical/Practical Course of Study leveraging technologies such as AR/VR.
   - Incorporation of STEM/SMAC Skills & Knowledge
   - Feedback Loop to facilitate a "Self-Learning" training program.

Why AI?

Artificial Intelligence is the next major revolution of our time – our goal is to be one of the most advanced countries in this regard.

His Highness Sheikh Mohammed Bin Rashid Al Maktoum
Vice President and Prime Minister of the UAE and Ruler of Dubai

Why AI? (continued)

- The UAE has developed national strategies to become a world leader in the development of a digital, AI-enhanced economy in the 21st century.
  (UAE 4IR Strategy and Ministry of AI, Strategy; 2018)
- Automation and digitalization will affect more than 50% of the jobs currently held by Emiratis in the next 10-15 years (2031).
  (MOHRE National Employment Strategy 2018)
- AI technologies represent a huge area for new job roles in the very near future.
  (British Council: Future Skills Representing the UAE's Future Workforce; 2018)
- As the rest of the world integrates AI into their businesses, AI could become a major disruptor to Middle East businesses, if they do not adapt and evolve.
  (The AI GAP: Time for the Middle East to Take it Seriously; BCG; 2018)
- "In future workplaces, 41% more time will be spent on critical thinking, 77% more time will be spent using science and math skills, and management will go down by 26%."
  (British Council: Future Skills Representing the UAE's Future Workforce; 2018)

What exactly is AI?

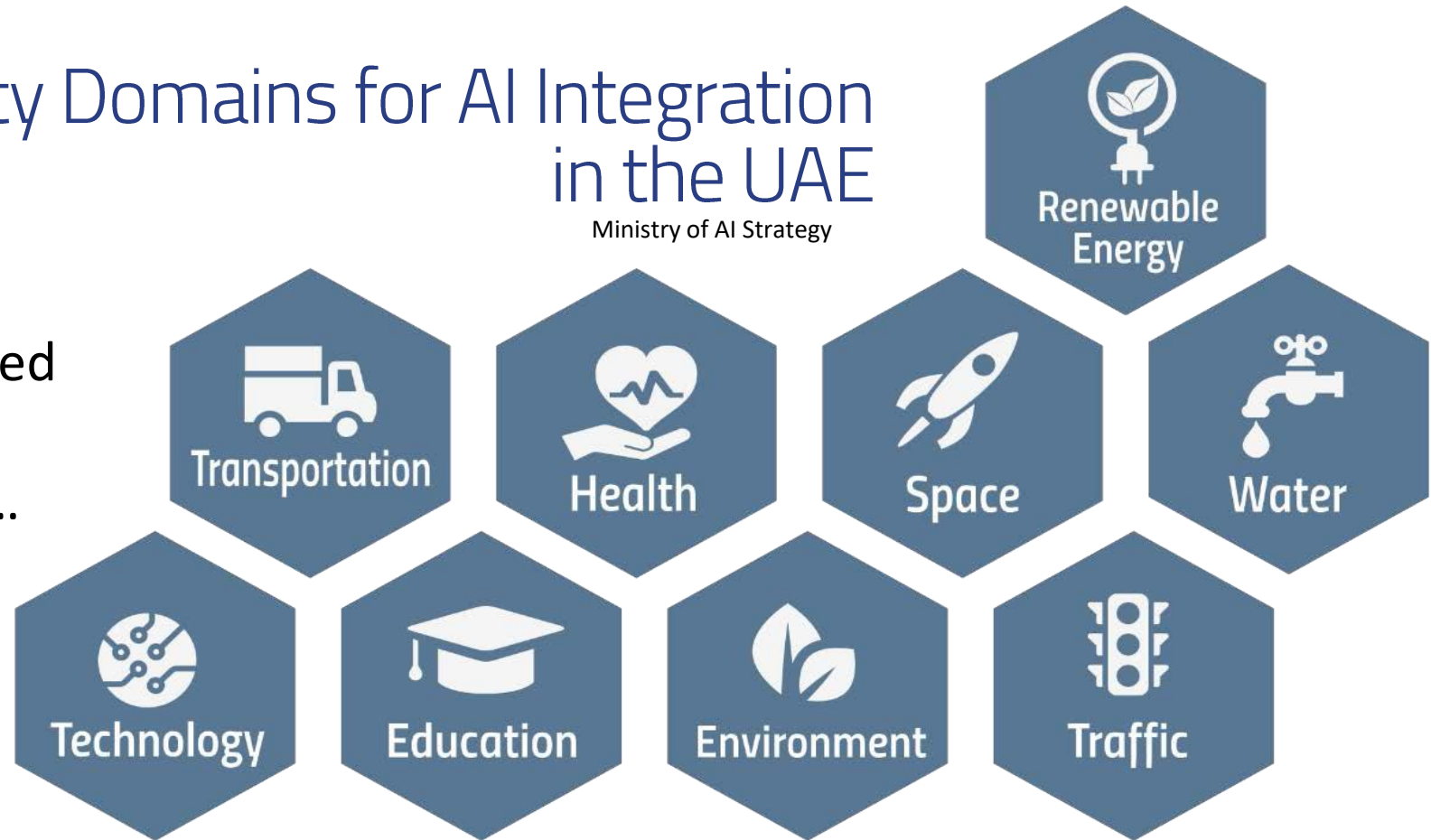AI is the science of training systems to emulate human tasks through learning and automation...[1]

Robotics

(1) AI trends for 2019. https://www.techcentral.ie/ai-trends-for-2019/
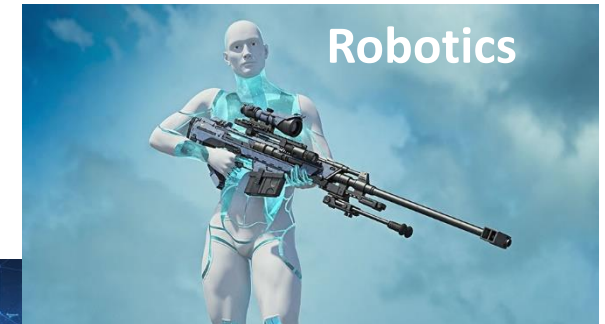
Priority Domains for AI Integration in the UAE

Ministry of AI Strategy

All these domains will need AI-savvy executives, technicians and workers…

Transportation
Health
Space
Renewable Energy
Water
Technology
Education
Environment
Traffic

Where will they come from?

The Solution: The Triple Helix
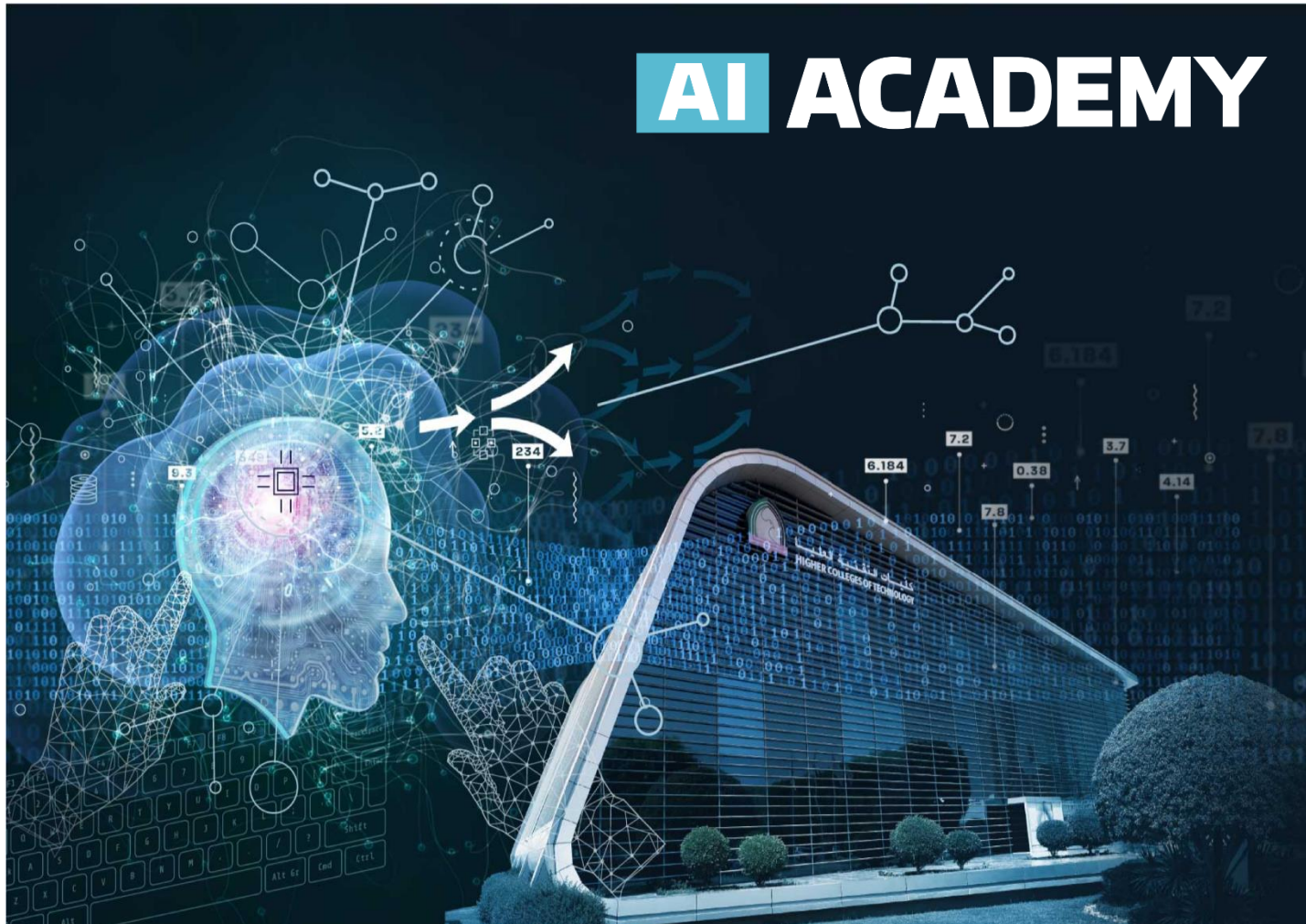

AI Integration
Triple Helix Model
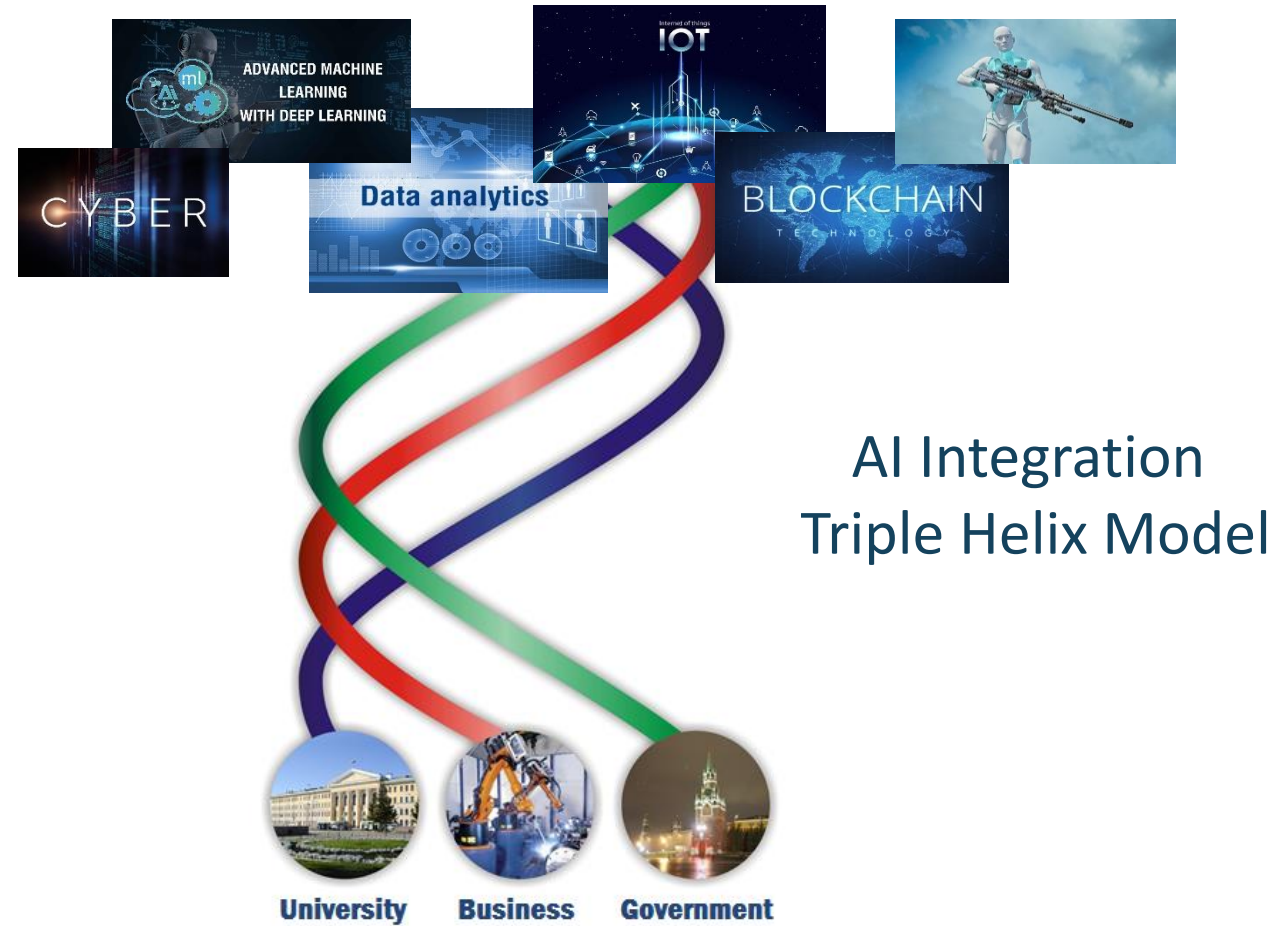
An Integrated Approach to Preparedness

- **Government:**
  - Provide funding for new initiatives
  - Provide strategies and action plans for the way ahead
  - Empower academia to incubate AI start-ups (i.e., HCT campuses designated as free zones)

- **Academia:**
  - Provide education pathways for the AI workforce of the future
  - Provide AI up-skilling and re-skilling pathways for people already in the job market
  - Generate research on emerging AI technologies relevant to Industry and Government
  - Collaborate with Industry to bring university-incubated AI start ups to market

- **Industry:**
  - Create AI-related roles and career pathways
  - Develop retention strategies for their highly-skilled AI workforce
  - Collaborate with both Academia & Government to provide work-study and internship opportunities
  - Fund applied research & development (R&D) conducted by university-level students and faculty
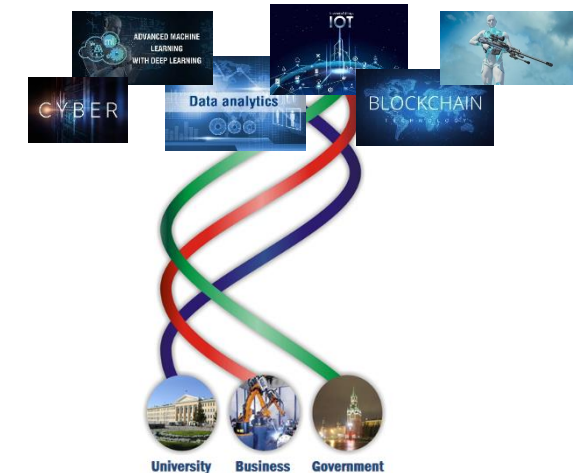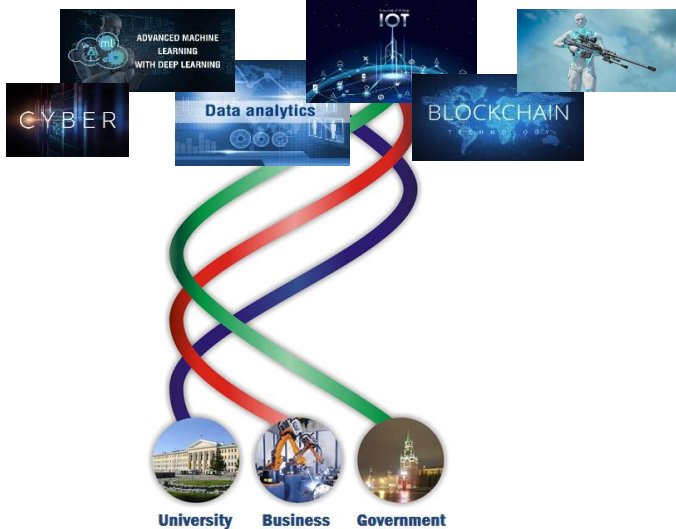
Why CERT for AI?

The **CERT AI Academy** offers a comprehensive platform of solutions in AI Talent Acceleration, AI Incubation, AI Technologies Integration and AI Knowledge Transfer in key sectors of the UAE economy.

The CERT AI Academy draws on AI technology talent partners from industry, academia and government sectors from around the world.

AI ACADEMY

AI Talent Acceleration

- AI-Driven Leadership Program (AIDLP©)
- AI Assessment & Competency Mapping
- AI Competency Centers Programs AICP©
- AI Employability Reskilling Program per Sector AIERP©

AI Start-Up Incubation

- AI Incubation Centers
- AI Advisory Committee
- AI Investor Forum

Enterprise AI Technology Integration

- AI Organizational Maturity Assessment
- Enterprise AI Transformation Model©
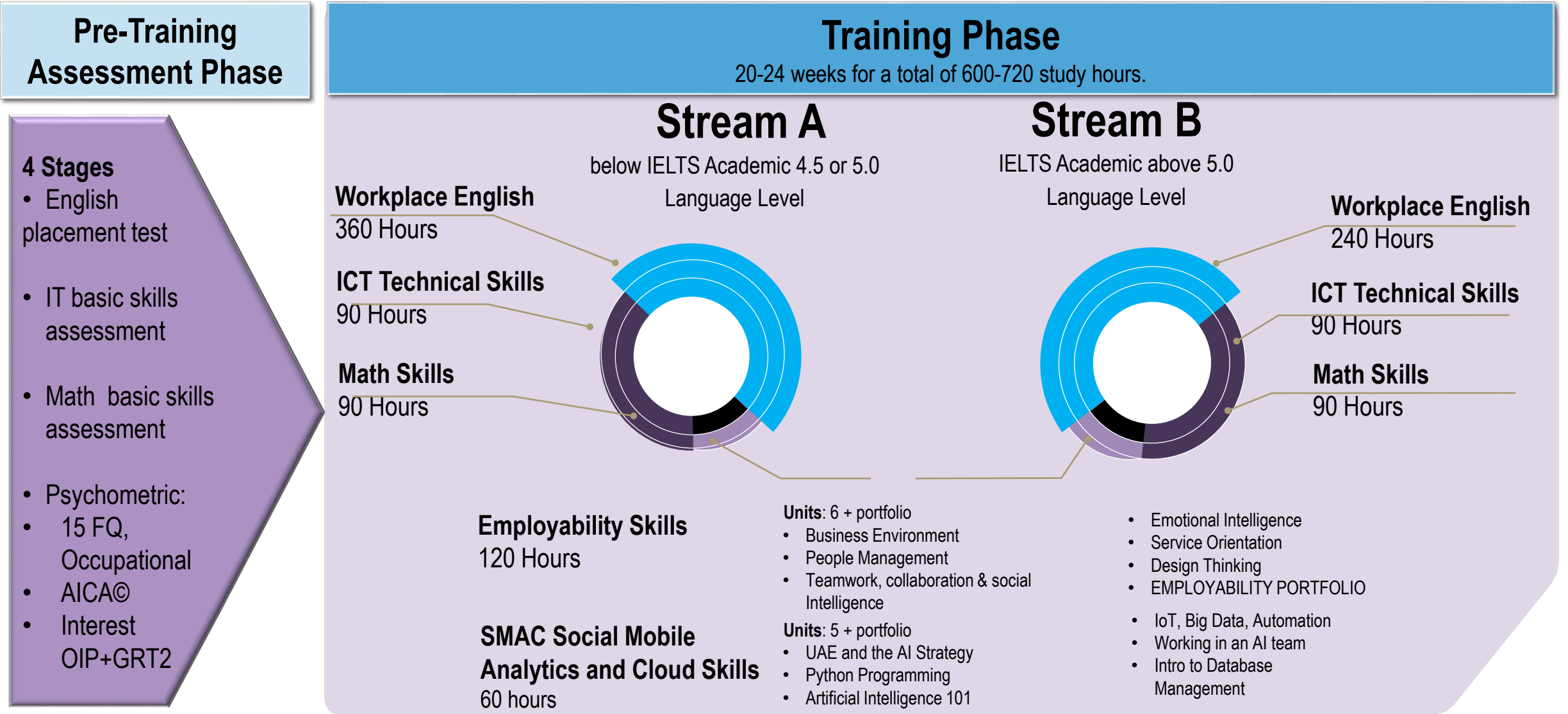- AI Development and Integration
- Data Analytics ML-powered Centers

AI Program for Young "Digital Thinkers"

- Summer Camps: Coding, Programming, Robotics, Design Thinking. Competitions
- AI Labs & Innovation Centers

AI Knowledge Transfer Program

- AI Knowledge Seminars & Round Tables
- Industry Advisory Forums

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Example AI Employability Program Design & Flow

Pre-Training Assessment Phase

4 Stages
- English placement test
- IT basic skills assessment
- Math basic skills assessment

- Psychometric:
- 15 FQ, Occupational
- AICA©
- Interest OIP+GRT2

Training Phase

20-24 weeks for a total of 600-720 study hours.

Stream A
below IELTS Academic 4.5 or 5.0
Language Level

Workplace English
360 Hours

ICT Technical Skills
90 Hours

Math Skills
90 Hours

Employability Skills
120 Hours

SMAC Social Mobile Analytics and Cloud Skills
60 hours

Units: 6 + portfolio
- Business Environment
- People Management
- Teamwork, collaboration & social Intelligence

Units: 5 + portfolio
- UAE and the AI Strategy
- Python Programming
- Artificial Intelligence 101

Stream B
IELTS Academic above 5.0
Language Level

Workplace English
240 Hours

ICT Technical Skills
90 Hours

Math Skills
90 Hours

- Emotional Intelligence
- Service Orientation
- Design Thinking
- EMPLOYABILITY PORTFOLIO

- IoT, Big Data, Automation
- Working in an AI team
- Intro to Database Management

Thank You

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