



البرنامج الوطني لربط الصناعة بالأكاديميا  
برنامج «دكتور لكل مصنع»

Linking Academic  
Institutes with  
Industrial Sectors  
“Faculty For Factory”  
FFF Program

General Manager:  
Prof. Dr. Yousef Al-Abdallat

A person in a dark jacket stands on dark, jagged rocks in the foreground, looking out at a vast ocean under a dramatic sunset sky. The sun is low on the horizon, casting a bright orange glow across the water and sky, with scattered dark clouds. The overall mood is contemplative and inspiring.

# **Boosting and Strengthening Jordanian Young Entrepreneurs' Innovative Methodologies & SME's**

**Linking Academic Institutes with Industrial Sectors (FFF Program)**

A photograph of a space shuttle launch at night. The shuttle is ascending vertically, illuminated by its own engines, creating a bright trail of light. Large plumes of white smoke and fire are visible at the base of the shuttle. The launch pad structure is visible in the background, and the scene is reflected in a body of water in the foreground. The image is split diagonally by a dark blue line.

1.

# Introduction

The image features two young green plants growing in soil. The plant in the foreground is in sharp focus, showing its stem and several leaves. The plant in the background is out of focus. A diagonal line splits the image from the top-left to the bottom-right, with the area to the left of the line being a dark, semi-transparent overlay. The text 'Exponential Growth' is written in white on this dark area.

# Exponential Growth

# Data



A close-up, slightly blurred photograph of a person's hands using a magnifying glass to inspect a document. The document contains statistical data, including percentages and sample sizes. The image is overlaid with a dark blue diagonal gradient. The word "Information" is written in white, sans-serif font across the middle of the image.

# Information



# Knowledge

A close-up photograph of a person wearing a VR headset and large headphones. The person's face is partially visible, looking upwards. The image has a strong red and orange color cast. A diagonal line runs from the top left to the bottom right, separating the person's face from the VR headset. The word "Technology" is written in a large, white, sans-serif font across the middle of the image.

# Technology





# Lack of resources & Lag behind the world

A person's hands are shown holding a glowing lightbulb. The lightbulb is the central focus, with a warm, yellowish glow emanating from it. The person's hands are positioned around the base and sides of the bulb. The background is dark and out of focus, with some blurred lights. A diagonal dark blue overlay covers the right side of the image.

# Innovation & Entrepreneurship



**2.**

**Jordan**



# Human Resources

Well-Educated & Qualified



# Upgrade by Enriching Human Resources and Boosting Capacities



“

**“To increase our national  
production represented by GDP &  
GDP per capita”**

“

“A necessity for not only educating human resources, but also **enabling them to initiate their own business** – in their fields, to advance new jobs and generate revenues”



**Harmonization between local and global markets; with what is being taught in educational institutions**





# National Program for Linking Industrial Sectors with Academia



3.  
Faculty For Factory  
“**FFF** Program”

A green suspension bridge with a chain-link fence railing stretches across a dense, lush green forest. The bridge is made of metal and has a corrugated metal floor. The surrounding trees are thick and vibrant green, creating a canopy overhead. The lighting is soft, suggesting a shaded forest environment.

To Bridge the Gap



# Dynamic Network

Multipurpose  
Mission

One

Strengthen the applied scientific  
research

**Multipurpose  
Mission**

**Two**

Giving the academic staff the opportunity to develop their knowledge and apply their theoretical concepts

The background image shows a large industrial facility, likely a steel mill or a large-scale manufacturing plant. In the foreground, a large crane hook is visible on the left, suspended by thick cables. The interior is filled with complex metal structures, including beams and scaffolding. In the distance, a bright, glowing area suggests a high-temperature process, possibly a furnace or a casting area, with several bright lights illuminating the scene. The overall atmosphere is industrial and somewhat hazy, with a mix of dark and bright colors.

## Three

Helping the industrial organizations to grow and enabling them to take advantage of the available technical experiences needed to solve problems and develop their products and/or services



# Win-to-win Relationship





# 4. Innovation & Education



# Education must be Hybridized with Innovation



“

“Not to implement it in **colleges** or **high schools** only but also and without exaggeration, it must be implemented in our **kindergarten curriculums**”



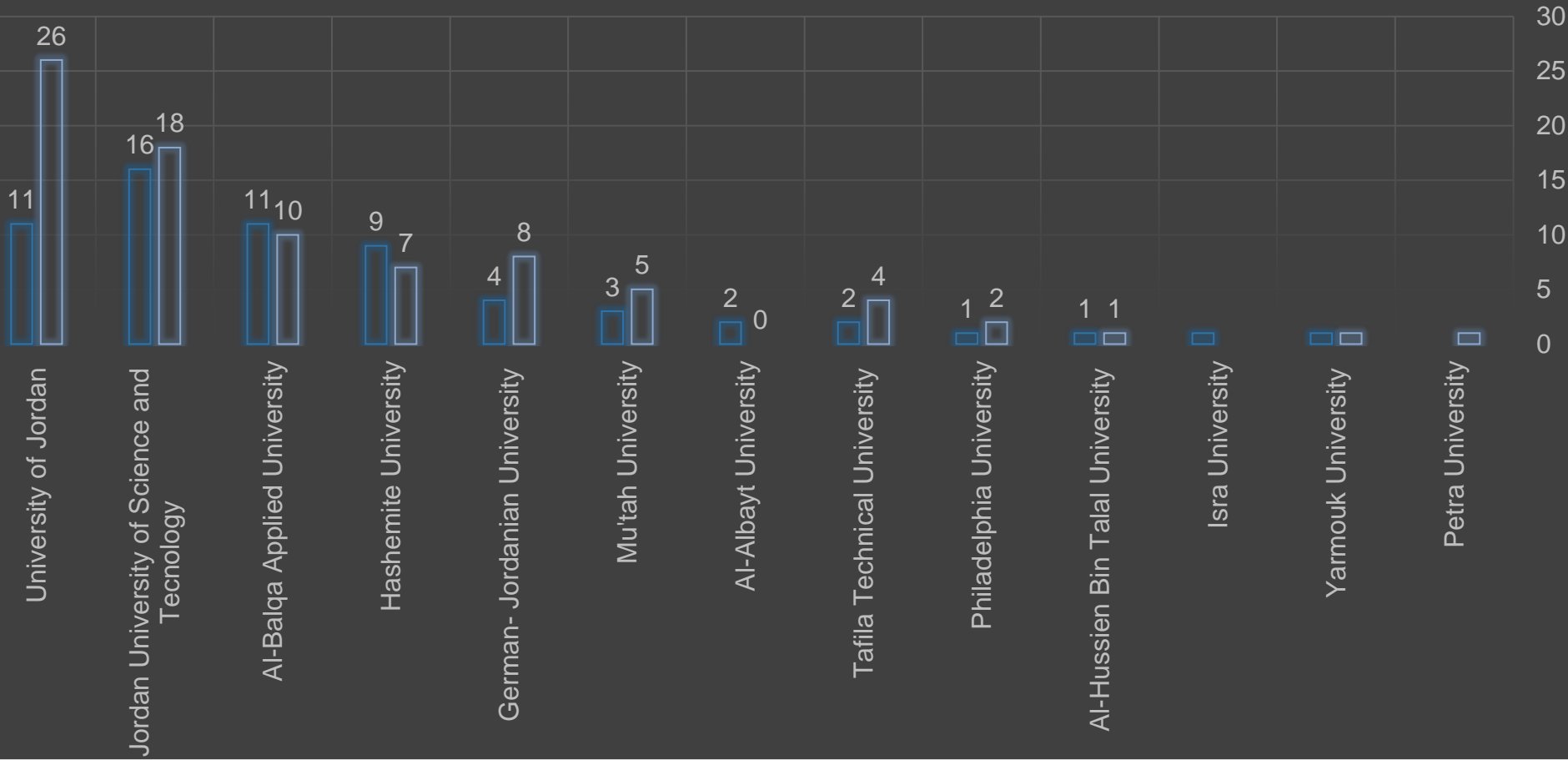
“

“It is the responsibility of all national educational institutes to supply the next educational stages with **proper** and **well-prepared inputs** that suits the current stage requirements to obtain the best result of each stage.



# FFF at the University of Jordan

# The Number of Universities Participants





# Industrial Sectors

Food, Supplies, Agricultural and Livestock Industries

Engineering Industries

Therapeutics and Medical Industries

Chemical and Cosmetics Industries

Mining Industries

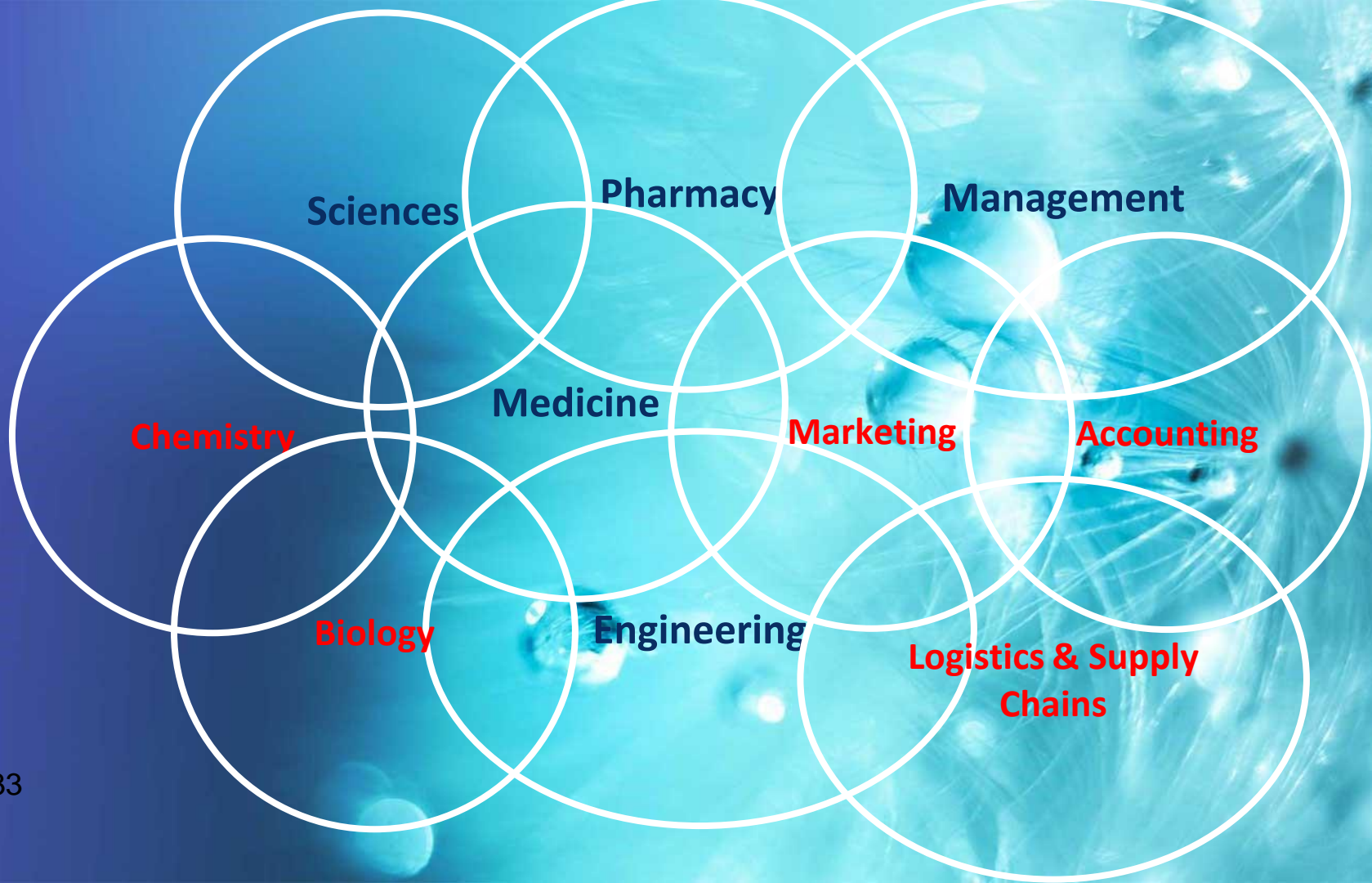
Packing, Packaging, Paper, Cartoon and Stationery

Electrical and Information Technology Industries

Plastic and Rubber Industries

Construction Industries





A close-up photograph of a single, clear water droplet resting on a weathered wooden plank. The droplet is perfectly spherical and reflects the surrounding environment, including the blue sky and the texture of the wood. The plank runs diagonally across the frame from the bottom left towards the top right. The background is a clear, vibrant blue sky. The overall composition is clean and minimalist, with a strong diagonal line.

**To spread innovation not  
only as a techniques but also  
as a culture and life-style**

A close-up photograph of a single, clear water droplet resting on a weathered wooden plank. The droplet is perfectly spherical and reflects the surrounding environment, including the blue sky and the texture of the wood. The plank runs diagonally across the frame from the bottom left towards the top right. The background is a clear, vibrant blue sky. The overall composition is clean and minimalist, with a strong diagonal line.

**Implement innovation and entrepreneurship courses, with the collaboration with national (public & private) and international institutes**



# 6. The Impact

The background features a diagonal gradient from dark blue on the left to light cyan on the right. Numerous translucent, 3D-rendered water droplets of various sizes are scattered across the entire surface, creating a fresh and dynamic aesthetic.

New products &  
services?

New markets &  
demands?

New income & wealth?

The background features a diagonal split between a dark blue gradient on the left and a lighter cyan gradient on the right. Numerous translucent, 3D-rendered water droplets of varying sizes are scattered across the entire surface, creating a fresh and clean aesthetic.

Will this research help  
the Jordanian citizens in  
improving their life?



# Success Stories







# Fourth Industrial Revolution (4IR)

# Life Cycle Model



اختراع (Invention)

نشر الاختراعات  
(Democratization)

فكرة غير مألوفة  
(Novel Idea)

الابتكار  
(Innovation)





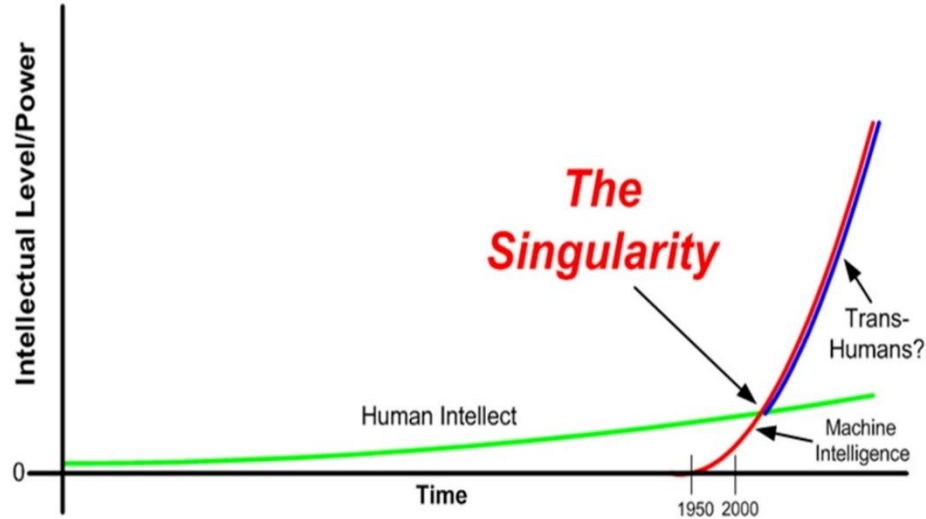
**Design methods Approach  
in the  
Fourth Industrial Revolution**

# Design methods in the Fourth Industrial Revolution



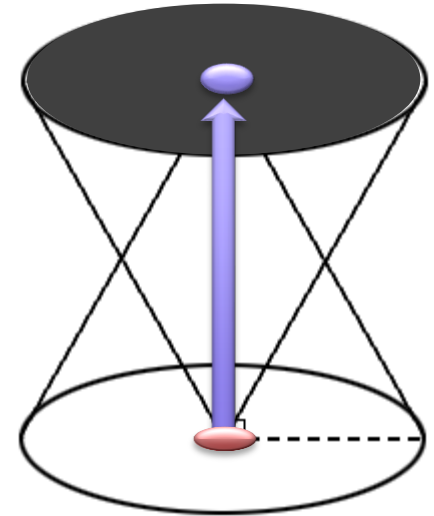
## (Singularity) النواة

The massive acceleration of technological development will make industrial revolutions happen in every decade, not every century. It will lead us to the stage that achieving everything will be technology. Then we will be able to make the impossible reasonable.



المعرفة البشرية الهائلة في الزمن يؤؤل إلى الصفر

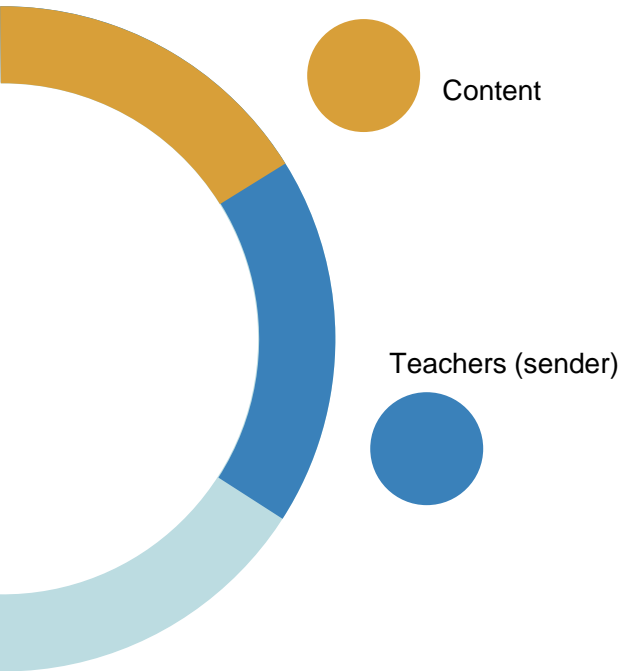
Huge human **knowledge** in **time** is reduced to zero





# Education in the Fourth Industrial Revolution

# First: Restructuring the inputs of the current educational process



Change the content of the curriculum consumed



Add new and modern such as entrepreneurship, creativity, innovation, critical thinking, creative thinking



Replace the traditional constants in the curriculum with modern corresponding



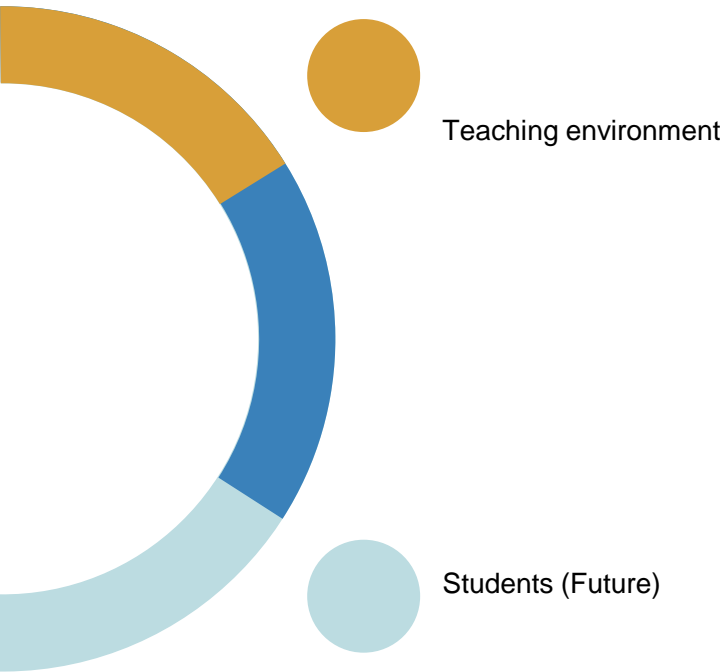
Changing traditional teaching methods and activating modern methods based on technology



Enhancing the educational process by establishing laboratories for contemporary innovation in various fields



# First: Restructuring the inputs of the current educational process



Processing laboratories and equipment and techniques for integrating them into education



Configuration classroom and suitability for modern teaching mechanisms



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Dissemination of pioneering thought in the context of the Fourth Industrial Revolution



Teaching innovation to students at an early stage of their educational life



# Second: Adjust scientific research directions and to adapt its outputs to the topics of industrial revolution



Learning

Knowledge Application

Knowledge

Innovation



Enhancing **scientific research** trends and measuring the **impact** on countries progress towards the **Fourth Industrial Revolution**

- Identify contemporary topics for research
- Identify mechanisms and criteria for measuring impact



# Third: Building a national strategy for education and introducing new programs and disciplines



Learning



Knowledge Application



Knowledge



Innovation



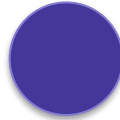
**Development new educational programs and disciplines required by the new labor market**

Otherwise, the gap between industry and academia will increase

# New disciplines in the context of the Fourth Industrial Revolution



(Artificial Intelligence) الذكاء الصناعي

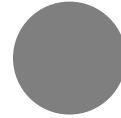


(5<sup>th</sup> Generation) الجيل الخامس من الشبكات

(Internet of Things) انترنت الأشياء



(Robotics) الروبوتات



(Big Data) البيانات الضخمة



Blockchain



(Cloud Computing) الحوسبة السحابية



(3D Printing) الطباعة الثلاثية الأبعاد



(Technology of Finance) التكنولوجيا المالية



(Renewable Energy) الطاقة المتجددة



(Electronic Commerce) التجارة الإلكترونية



(Nano-Technology) تقنية النانو



# Future Jobs for Industry 4.0

- 1 Programmer and Application Developer
- 2 Renewable Energy Engineer
- 3 Planner and Financial Advisor
- 4 E-Marketing



# Future Jobs for Industry 4.0

9 Data Analyst

10 Information Security

11 3D Printing Engineering

12 Virtual Teaching



# Future Jobs for Industry 4.0

- 13 Robotics Engineering
- 14 Augmented Reality Engineer
- 15 Artificial Intelligence Engineering
- 16 Virtual Project Management
- 17 Virtual Gym Trainer



مسرعات الأعمال

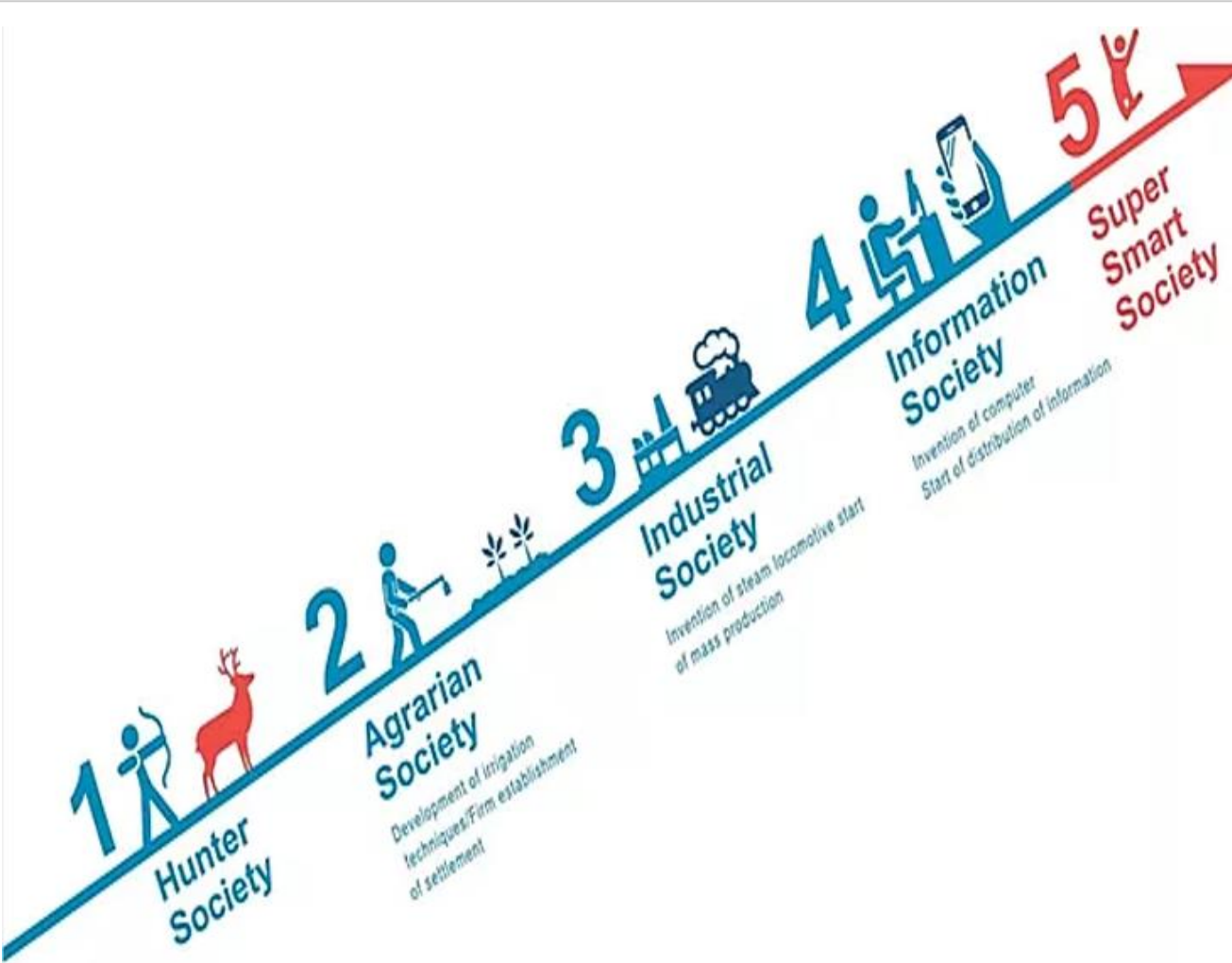
Business  
Accelerators &  
Incubators

Based on innovation as an adopted tool to adapt to the course of the Fourth Industrial Revolution, the following question arises:

**What is the role of business accelerators and incubators in the context of the Fourth Industrial Revolution?**

A person wearing a red and blue plaid shirt is seated at a wooden desk. Their right hand is raised in a gesturing motion. On the desk in front of them is an open laptop displaying a dashboard with various charts and graphs. A smartphone is lying on a white notebook in the foreground. The background is blurred, showing other people in a meeting or office setting.

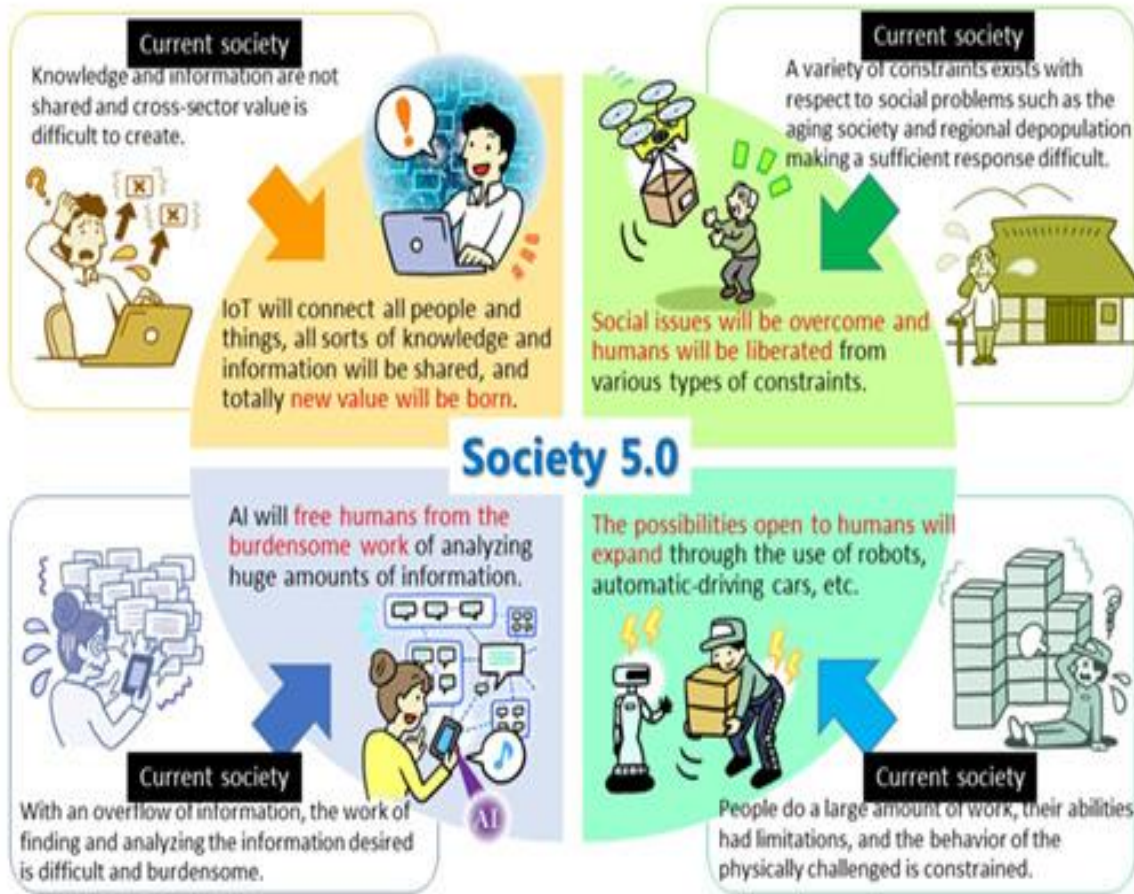
**Society 5.0**



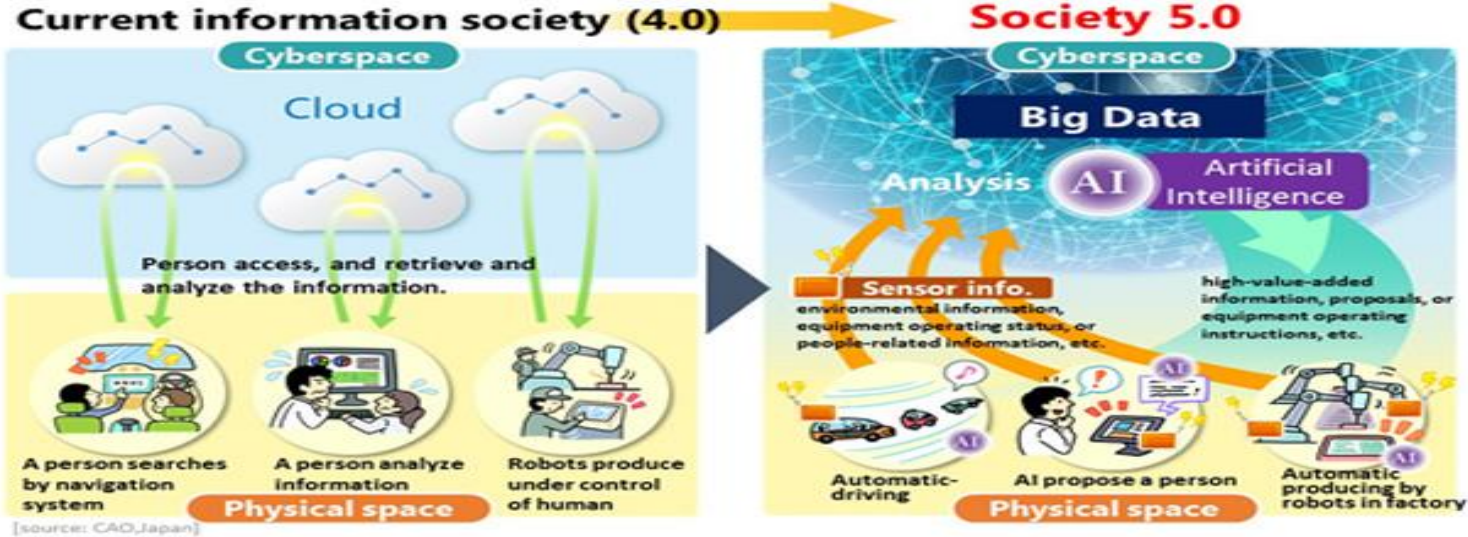
# Society 5.0



# Society 5.0



✓ يحقق درجة عالية من التقارب بين الفضاء الإلكتروني (الفضاء الافتراضي) والفضاء المادي (الفضاء الحقيقي). في مجتمع المعلومات السابق (مجتمع 4.0) ، يمكن للناس الوصول إلى خدمة سحابية (قواعد البيانات) في الفضاء الإلكتروني عبر الإنترنت والبحث عن المعلومات أو البيانات واسترجاعها وتحليلها.



✓ يتم تجميع كمية هائلة من المعلومات من أجهزة الاستشعار في الفضاء المادي في الفضاء الإلكتروني. وفي الفضاء الإلكتروني ، يتم تحليل هذه البيانات الضخمة بواسطة الذكاء الاصطناعي (AI) ، ويتم تغذية نتائج التحليل على البشر في الفضاء المادي بأشكال مختلفة.

# TRAINING



**KPI**





# Business Accelerators

## Export Coaching Project

الوصول الى الاسواق الاوروبية

التدقيق الفني للتصدير

ورشات توعوية عن التصدير للاتحاد الاوروبي



الموائمة مع الاسواق الاوروبية

التقييم الذاتي من قبل اصحاب العمل

التصدير لأجل النمو



جهود متكاملة

الاسواق  
غير التقليدية

الاسواق  
التقليدية



# (The National Program Faculty for factory) Suggestions to develop practical training in Jordanian universities



## Divide the training into two main parts:

1. Training based on **Personal skills**, Administrative, leadership and linguistic.
2. **Technical skills** training Specialty.

Concluding **agreements** with major companies, factories or relevant institutions inside and outside the country for the purposes of conducting **training programs** for students at the beginning of each year according to mechanisms clear methodologies and measurable **KPIs**.

Training students in companies/factories/ institutions, that wish to carry out **development projects** on their business, and limiting these projects on the basis of **“training for employment”** programs.

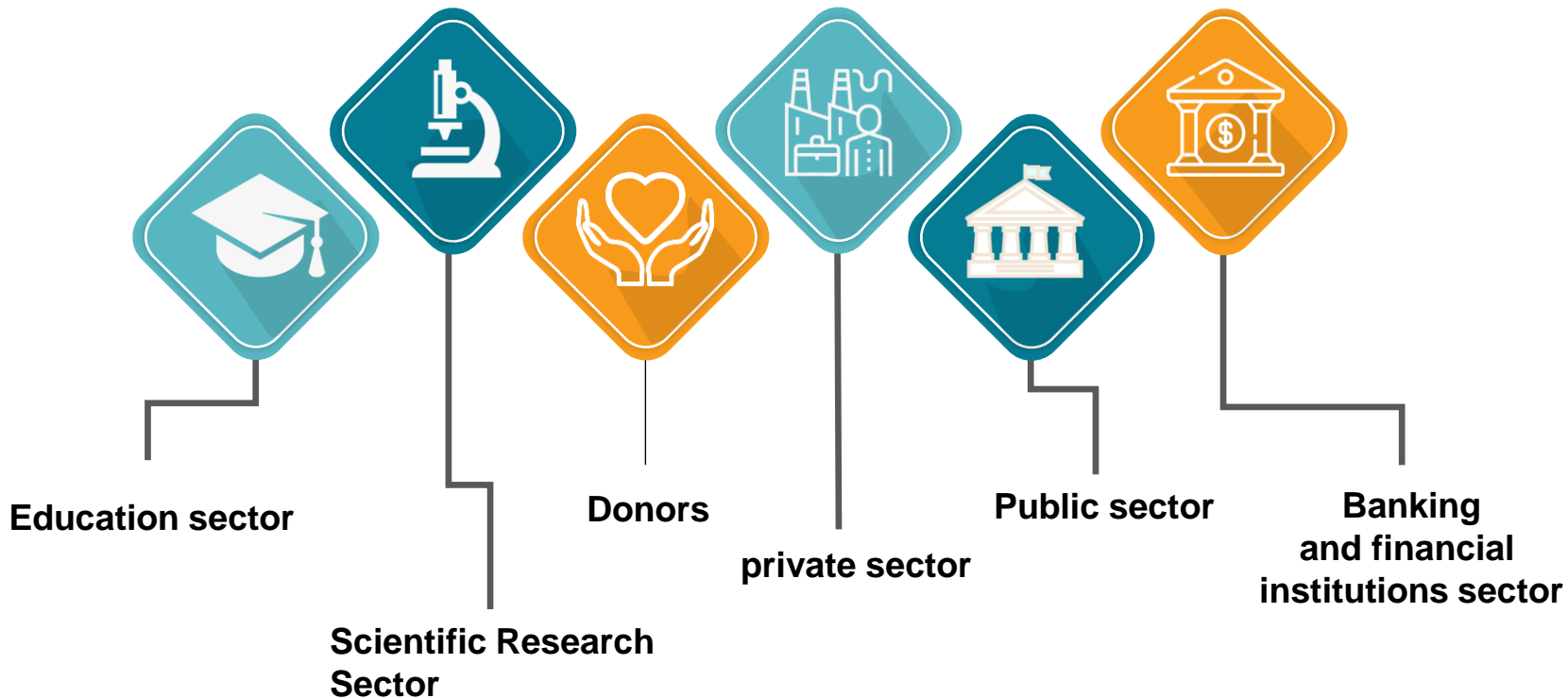
Preparing a database of training programs for students in a **manner commensurate with their specializations**, in addition to distributing these programs to companies or institutions according to their specializations and fields, or according to **international professional certificates**.

Establish a clear evaluation mechanism at the end of the training period by the institution or company, as well as a mechanism for feedback from students on the training mechanism in companies.

A proposed work for a mechanism of **prizes and incentives** for each of the distinguished companies and students who excel in training according to pre-defined criteria. Coordination with the assistant dean for training affairs and career guidance offices within Jordanian universities.



# Creativity and Innovation Training System





# Shape the Digital Future in Jordan

(Leading People, Data & Technology)

**Pathway for mid-and senior-level Business and IT & Tech professionals to “up-skill” and becomes the innovators and digital transformers that Jordan needs.**



## Business Unit



## Department Heads



## Operational Level



# Challenges

For leading

# Digital

transformation

1. Making the business case to internal stakeholders

2. Knowing how/ where to start

3. Budget/resource constraints

4. Concerns about cybersecurity

5. Lack of skills or training

6. Employee pushbacks

7. Lack of leadership or vision

8. Fear of failure

9. Fuzzy knowledge of digital tech

10. Misunderstanding digital economic

11. Ignoring incumbent players

12. Mis calibrated changes strategy

13. Digital & Innovation Culture



**Thank You**

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