

Digital Transformation of  
Entrepreneurship Education in TVET

# Exploring the Linkage and Interaction of Resources

Within the  
Entrepreneurial Ecosystem

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UNESCO UNEVOC Center

Shenzhen Polytechnic University



# A Case at Shenzhen Polytechnic University for Digital Transformation



## The National Level TVET Programme Teaching & Learning Database of Innovation and Entrepreneurship

A National Accredited Open Education Resource Database in the area of Entrepreneurship Education





# Introduction of the Database

# Approval Processes of the National Level Database

## "Innovation and Entrepreneurship Education Project (2016)"-SZPU

- **Project Name:** T&L Database of Innovation and Entrepreneurship
- **Year of Approval:** 2016
- **Level of the Project:** Institutional-level
- **Distinctive Feature:** Solely approved project of its kind within SZPU that year

深职院〔2016〕129号

### 关于公布 2016 年学校“创新创业教育专项”建设与研究项目立项及资助经费的通知

学校各单位：

为贯彻落实《深圳职业技术学院关于深化创新创业教育的实施办法（试行）》（深职院〔2016〕7号）文件精神，深入推进创新创业教育，把学校“三育人”系列教育教学改革继续引向深入，培养高素质的创新创业型人才，学校组织了2016年学校“创新创业教育专项”建设与研究项目申报工作，经专家评审同意立项：“高职院校创新创业教育与专业教育融合的研究与探索——以国际商务专业为例”等3个校级重点教研项目，“基于社会需求的高职大学生创新创业能力测评体系研究”等5个校级一般教研项目，“三维打印技术”等7门创新创业教育课程，

# Approval Processes of the National Level Database

## "Provincial Higher TVET Programme T&L Database (2017)-Guangdong Provincial Department of Education

- **Endorsement:** Supported by SZPT
- **Application:** Submitted for the "2017 Provincial Higher TVET Programme T&L Database"
- **Collaboration:** Joint effort with 22 top-tier domestic TVET institutions
- **Approval:** Successfully approved in the same year by Guangdong Provincial Department of Education
- **Next Step:** Pursuing the application for a national-level database

### 深圳职业技术学院文件

深职院（2017）144号

签发人：曾兴东

#### 深圳职业技术学院关于申报 2017 年职业教育专业教学资源库的请示

省教育厅：

根据《教育部办公厅关于做好职业教育专业教学资源库 2017 年度相关工作的通知》（教职成厅函〔2017〕23 号）和《广东省教育厅关于开展 2017 年省高职院校专业教学资源库和精品在线开放课程申报工作的通知》（粤教职函〔2017〕53 号）文件精神，我校推荐“创新创业教学资源库”、“影视动画专业教学资源库”2 个项目申报 2017 年职业教育专业教学资源库，现将相关材料报送贵厅。

妥否，请批示。

附件：1. 深圳职业技术学院申报 2017 年国家职业教育专业

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#### 教学资源库汇总表

2. 创新创业教学资源库-申报书
3. 创新创业教学资源库-建设方案
4. 影视动画专业教学资源库-申报书
5. 影视动画专业教学资源库-建设方案



（联系人：钟慧芳，电话：0755-26731390、13717002722）

# Approval Processes of the National Level Database

## National Level - TVET Programme T&L Database (2018)-MOE

- **Year:** 2018
- **Collaboration:** Joint effort with 30 top-tier domestic TVET institutions and 11 top enterprises
- **Application accepted:** by the MOE
- **Recognition:** Sole national-level TVET Programme T&L Database of Innovation and Entrepreneurship

### 教育部司局函件

教职成司函〔2018〕92号

#### 关于公布 2018 年职业教育专业教学资源库 立项建设项目名单的通知

各省、自治区、直辖市教育厅（教委），新疆生产建设兵团教育局：

根据《关于做好职业教育专业教学资源库 2017 年度相关工作的通知》（教职成厅函〔2017〕23 号）《关于公布 2017 年度职业教育专业教学资源库备选库的通知》（教职成司函〔2017〕80 号），经研究，同意 2017 年度职业教育专业教学资源库备选库排名前 14 位的项目立项。按照“教育部职业教育专业能力建设专项”（以下简称部本专项）安排和“各单位每年主特立项在建的资源库不超过 1 个”的规定，以及备选库实际排序，2018 年部本专项支持快速运营管理等 13 个资源库立项建设（详见附件 1）、支持已验收项目中建设应用成效好的环境监测与治理技术等 3 个资源库升级改造（详见附件 2）。有关事宜通知如下：

## 建设团队

TEAM BUILDING MODULE

## 主持院校



深圳职业技术学院  
SHENZHEN POLYTECHNIC



浙江工贸职业技术学院  
Zhejiang Industry & Trade Vocational College



南京工业职业技术学院  
NANJING VOCATIONAL UNIVERSITY OF INDUSTRY TECHNOLOGY

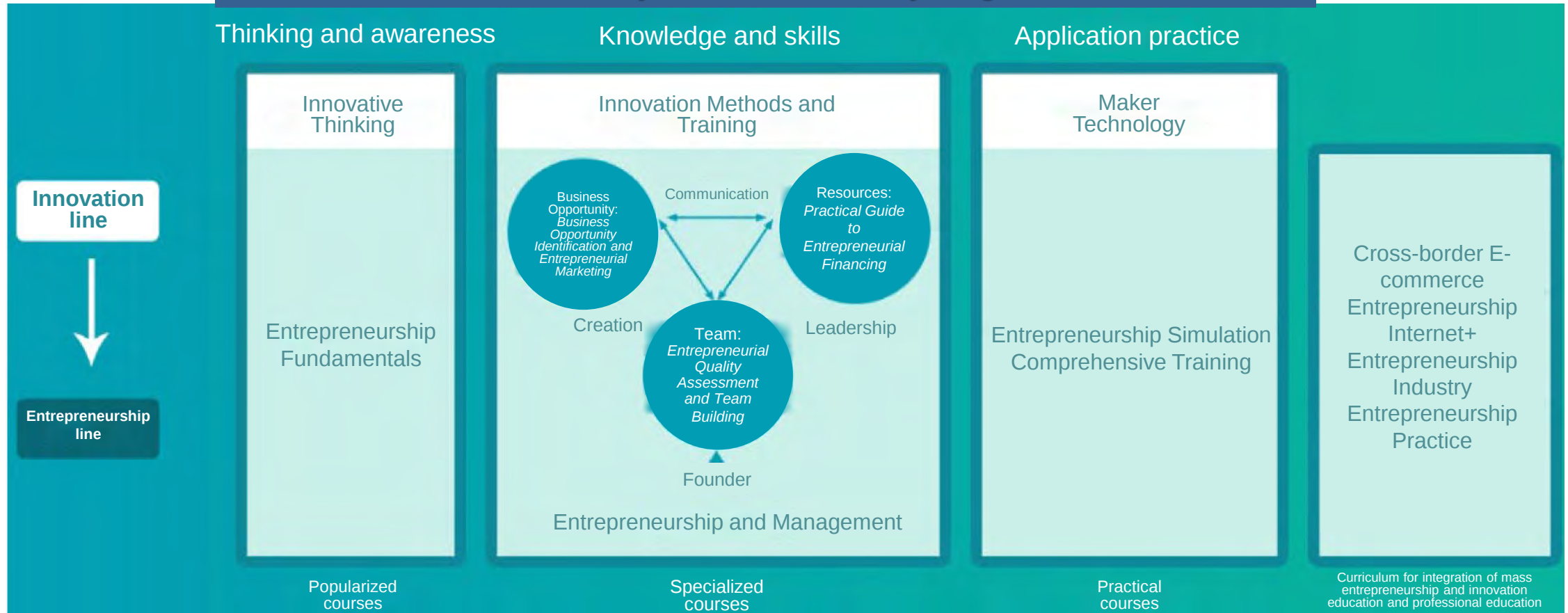
## 参建院校



江苏经贸职业技术学院 包头轻工职业技术学院 浙江机电职业技术学院 宁波职业技术学院 淄博职业学院 顺德职业技术学院 天津轻工职业技术学院 江苏农林职业技术学院  
北京财贸职业学院 长沙商贸旅游职业技术学院 杭州科技职业技术学院 广东交通职业技术学院 广东食品药品职业学院 金华职业技术学院 山东商业职业技术学院  
黑龙江建筑职业技术学院 芜湖职业技术学院 义乌工商职业技术学院 成都职业技术学院 宁波城市职业技术学院 泉州职业技术大学 温州科技职业学院 湖南工艺美术职业学院  
广东轻工职业技术学院 广东水利电力职业技术学院 广东工程职业技术学院 广东理工职业学院

# Development Achievements (1)

Form a four-level course system based on "layering and classification"



## 2020 National High-quality Online Open Courses

Fundamentals of entrepreneurship for university students | Mobile marketing

**55 mass entrepreneurship and innovation teaching books prepared, of which 5 books are included in the 13th Five-Year National Planning Teaching Materials**

*Navigating student entrepreneurship, Entrepreneurial legal practice*

*Internet entrepreneurship, Graduation design and career guidance*

*Digital course on career planning and employment and entrepreneurship guidance for higher vocational students*

# Development Achievements (2)

## Build 9 featured sub-databases in the eco-sphere of entrepreneurship and innovation

**Mass entrepreneurship and innovation culture**  
Enrich cultural connotation and enhance professional quality



**Mass entrepreneurship and innovation information**  
Demonstrate the achievements of mass entrepreneurship and innovation education  
Build learning exchange platforms



**Mass entrepreneurship and innovation mentor**  
Build a professional think tank  
Establish online and offline service system



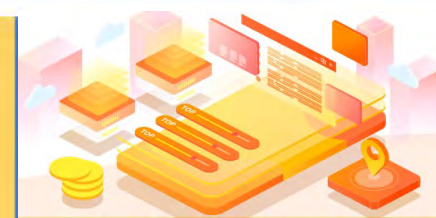
**Mass entrepreneurship and innovation cases**  
Learning from others' experience  
Inspire entrepreneurship with case studies



**Competition sub-library**  
Gather competition information  
Bring together sources of innovation



**Project promotion**  
Project training, resource matching  
Realize precision services



**Innovation Collection**  
Respond to Made in China  
Showcase industrial innovation examples

- Serve TVET reform and create an eco-sphere of education and industry integration
- Achieve precise matching of funds, intelligence, talents, and venues, and serve entrepreneurs in all aspects

# Development Achievements (3)

Build ten typical scenarios of interactive experience



Web portals of ten typical scenarios

## Secondary development of platform

Enhance interactive experience and provide model practical training, self-assessment and other functions

## Fitting in the practical teaching of mass entrepreneurship and innovation

Build ten typical applications with skills training + related knowledge learning



Webpage of typical scenarios:  
entrepreneur self-assessment  
report



Webpage of typical scenarios:  
business registration simulation  
process

# Development Achievements (4)

All indicators are achieved at or above the performance target

## Quantitative indicators

**24637 granular resource items**  
(Target value **15000**, completion ratio **150.67%**)

|                                      |                                       |                                   |
|--------------------------------------|---------------------------------------|-----------------------------------|
| <b>8906</b><br>Video items           | <b>918</b><br>Animation items         | <b>2293</b><br>Micro-course items |
| <b>98.90%</b><br>Active resources    | <b>8</b><br>Professional core courses | <b>4</b><br>Enrichment courses    |
| <b>25</b><br>Social training courses | <b>9</b><br>Featured sub-libraries    | <b>10</b><br>Typical Scenarios    |

## Qualitative indicators

| Indicator name                       | Target value | Achieved value |
|--------------------------------------|--------------|----------------|
| Percentage of original resources (%) | <b>35%</b>   | <b>78.2%</b>   |
| Percentage of active resources (%)   | <b>20%</b>   | <b>98.9%</b>   |
| Number of registered student users   | <b>27900</b> | <b>293378</b>  |
| Number of faculty users              | <b>600</b>   | <b>7435</b>    |
| Number of covered institutions       | <b>70</b>    | <b>2246</b>    |

## Timeliness indicators

Timely completion of tasks reaches **100%**; the construction unit's coverage of student users in relation to innovation and entrepreneurship education in higher TVET institutions is about **52.5%**; and the proportion of faculty users in the construction unit is about **45%**

## Cost indicators

The rate of implementation of income budget reaches **100%**, and the rate of implementation of expense budget reaches **99.99%**

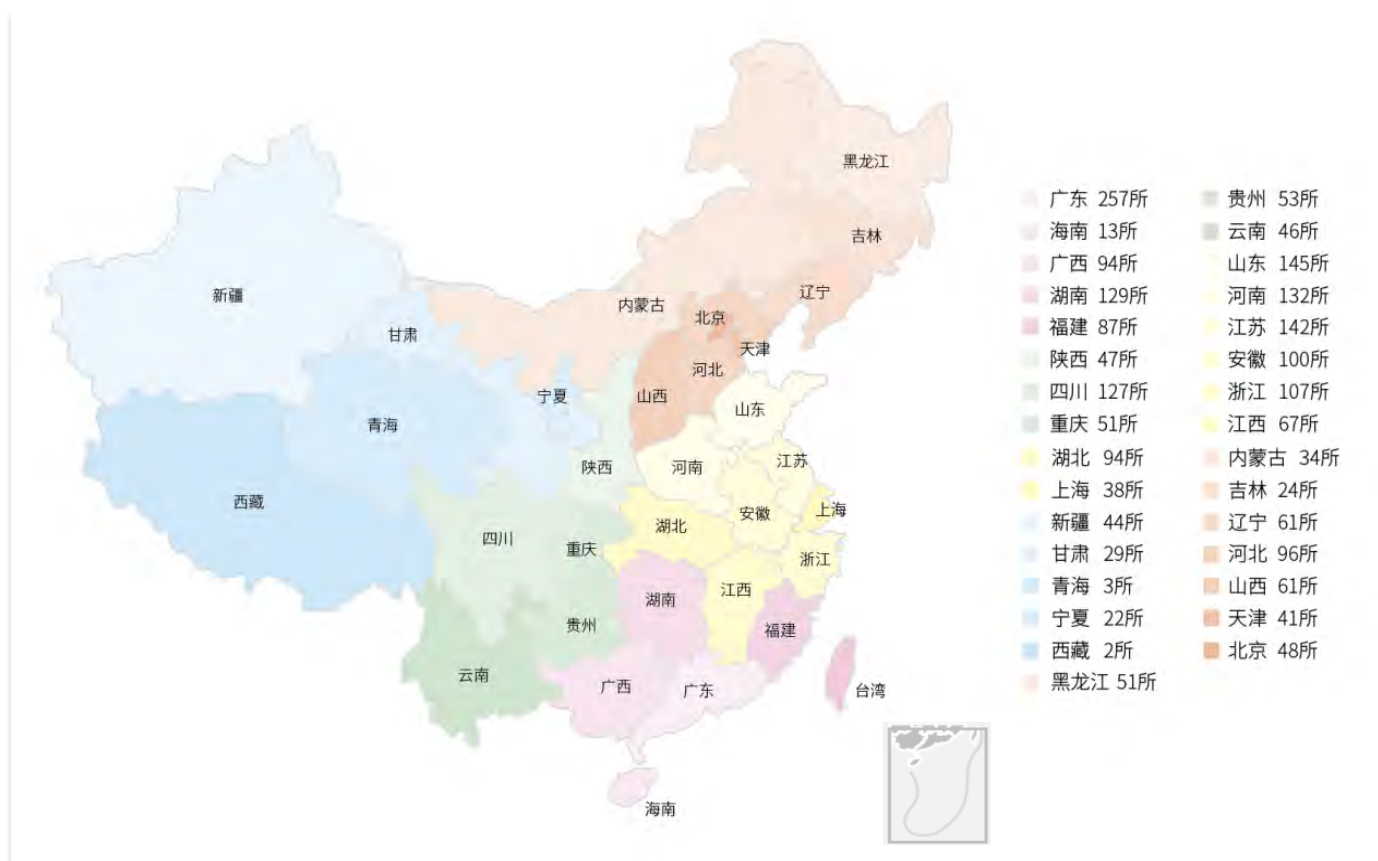
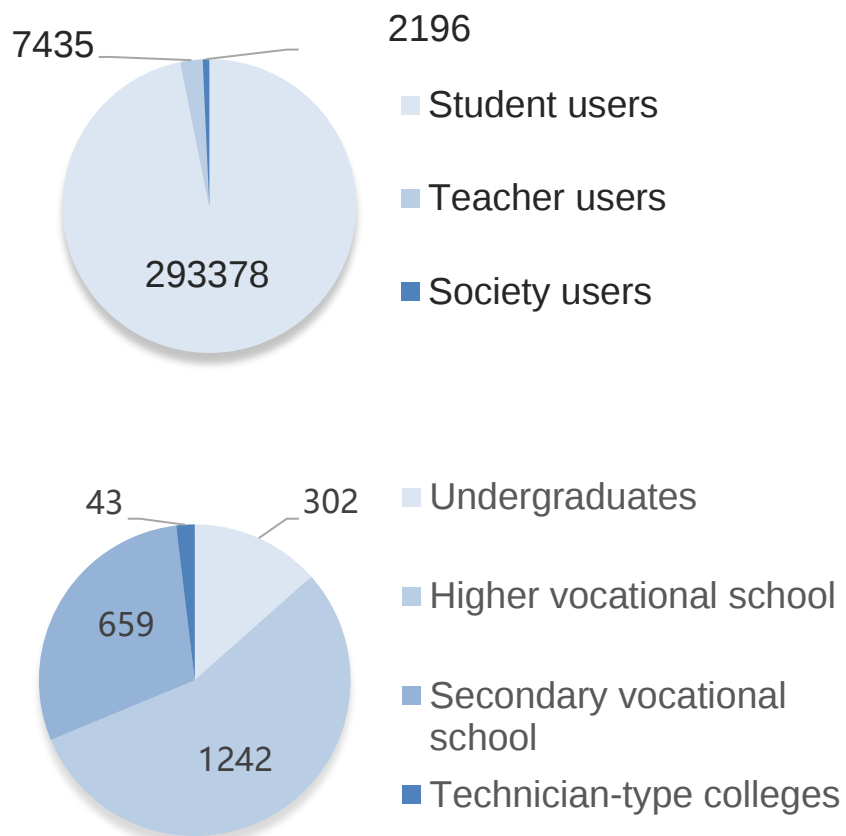
## Social benefit indicators and sustainable impact

The proportion of institutions using resource libraries is about **60%**  
The social learner users are about **2196**  
The coverage of school-level resource libraries of the first hosting unit reaches **30.67%**  
The coverage of school-level resource libraries of joint hosting units reaches **28.80%**

**Service satisfaction indicator 98%**

# Development Achievements (5)

As of August 27, the database has **627,935** registered users.



The application of the resources covers **31** provincial administrative regions and 2,246 institutions, including **Tsinghua University**, **Peking University** and other top colleges and universities in China

# Development Achievements (6)

## Promotion of the application

Promote the mass entrepreneurship and innovation education and teaching reform under the results-oriented principle



Reform and practice of progressive entrepreneurship education deeply integrated with professional education  
First prize of national teaching achievement in 2018

**457** prizes were awarded in various types of mass entrepreneurship and innovation competitions, of which the participating institutions won **11** gold prizes in the Internet+ National Competition

The faculty won **104** awards at the municipal level and above, and published **138** papers. It acquired **255** independent intellectual property grants and conducted **73** training courses of various types.

Resource Library Participating Universities and Colleges' List of Gold Awards in Previous China International "Internet+" College Students' Innovation and Entrepreneurship Competitions

| S/N | Track            | Year | Session | Award | Institution                                            |
|-----|------------------|------|---------|-------|--------------------------------------------------------|
| 1   | Vocational Track | 2020 | Sixth   | Gold  | Shenzhen Polytechnic                                   |
| 2   | Vocational Track | 2020 | Sixth   | Gold  | Shenzhen Polytechnic                                   |
| 3   | Vocational Track | 2020 | Sixth   | Gold  | Nanjing Vocational University of Industry Technology   |
| 4   | Vocational Track | 2020 | Sixth   | Gold  | Jinhua Polytechnic                                     |
| 5   | Vocational Track | 2020 | Sixth   | Gold  | Guangdong Industry Polytechnic                         |
| 6   | Vocational Track | 2019 | Fifth   | Gold  | Jiangsu Vocational College of Agriculture and Forestry |
| 7   | Vocational Track | 2019 | Fifth   | Gold  | Tianjin Light Industry Vocational Technical College    |
| 8   | Vocational Track | 2019 | Fifth   | Gold  | Wuhu Institute of Technology                           |
| 9   | Vocational Track | 2019 | Fifth   | Gold  | Nanjing Vocational University of Industry Technology   |
| 10  | Vocational Track | 2019 | Fifth   | Gold  | Nanjing Vocational University of Industry Technology   |
| 11  | Vocational Track | 2019 | Fifth   | Gold  | Shandong Institute of Commerce and Technology          |

We can link and interact with different types of resources within the entrepreneurial ecosystem by constructing the **National Level TVET Programme Teaching and Learning Database of Innovation and Entrepreneurship?**

**How?**



# **Exploration of the Practical Implementation with ELIC as a framework**

## 8 KEY STAKEHOLDERS

Who are the key partners?  
What role do teachers play?  
What role do managers play?  
What can external partners contribute?

## 4 CURRICULUM APPROACH

How can entrepreneurial learning be integrated into curricula?  
What are the competencies and curriculum content, and what are the modes of delivery – organization and methods of instruction?

## 1 VALUE PROPOSITION

What value does entrepreneurial learning produce for learners in your institution?  
What value does entrepreneurial learning produce for your TVET institutions?  
A clear, compelling message explaining why entrepreneurial learning is needed.

## 12 MONITORING KEY METRICS

How can the development of entrepreneurial competencies be monitored?  
Which indicators can be used to evaluate the impact?

## 2 TARGET GROUP

Who are the target groups for entrepreneurial learning?  
How can the target groups be defined?  
For whom do we create value?

## 6 KEY RESOURCES

Which resources are possible / needed?  
On which resources does the value proposition significantly build?

## 5 KEY ACTIVITIES

What methods exist to develop entrepreneurial competencies?  
Which learning offers should be introduced to meet the target group's needs?  
Where does entrepreneurship "live" in courses?

## 3 ENTREPRENEURIAL COMPETENCIES

Which entrepreneurial competencies should be strengthened?  
Which entrepreneurial professional competencies, social competencies, methodological competencies, and self-competencies should be achieved?

## 9 ASSESSMENT

How can entrepreneurial learning be tested?

## 10 CHANNELS

How are the benefits of entrepreneurial learning communicated?  
How and through which channels do I reach my target group?  
How can the TVET institution establish good communication with the stakeholders?  
Which communication channels work best?

## 7 CORE TEAM

Who is the driver of the implementation of entrepreneurial learning at the institution?  
Who are the multipliers?

## 11 ORGANIZATIONAL STRUCTURES

How can the institution support entrepreneurial learning organizationally?

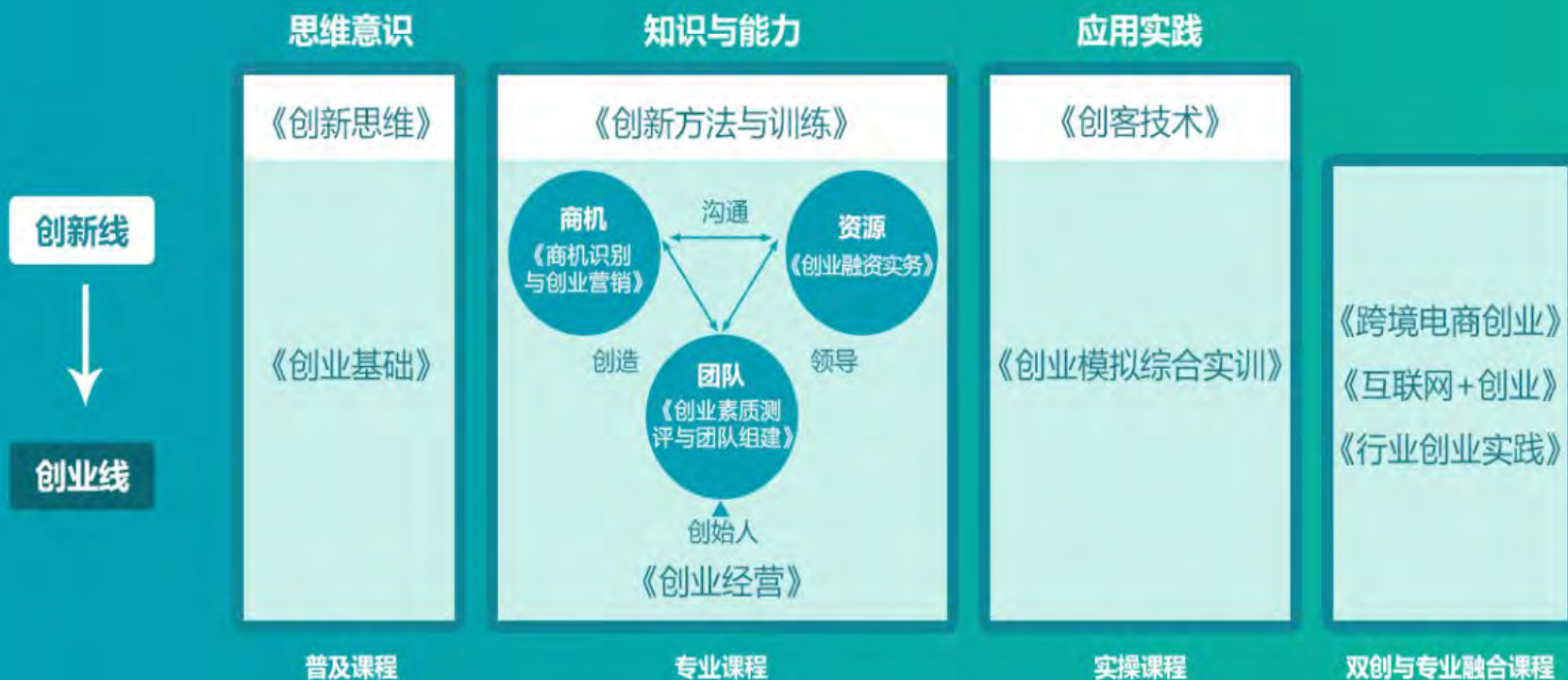


# The 12 Core Courses

| Category         | Module                                              |              | No.    |                                    | Course                                               | Institution                                          |
|------------------|-----------------------------------------------------|--------------|--------|------------------------------------|------------------------------------------------------|------------------------------------------------------|
| Innovation       | Thinking and Awareness                              |              | 1      | 创新思维                               | Innovation Thinking                                  | Shenzhen Polytechnic University                      |
|                  | Knowledge and Skills                                |              | 2      | 创新方法与训练                            | Innovation Methods and Training                      | Tianjin Light Industry Vocational Technical College  |
|                  | Practical Application                               |              | 3      | 创客技术                               | Maker Technology                                     | Zhongzilian Education Technology Co. Ltd             |
| Entrepreneurship | Thinking and Awareness                              |              | 4      | 创业基础                               | Entrepreneurship Basics                              | Zhejiang Industry & Trade Vocational College         |
|                  | Knowledge and Skills                                | Opportunity  | 5      | 商机识别与创业营销                          | Opportunity Identification and Marketing             | Shandong Institute of Commerce and Technology        |
|                  |                                                     | Team         | 6      | 创业素质测评与团队建设                        | Entrepreneurial Quality Assessment and Team Building | Ningbo Polytechnic                                   |
|                  |                                                     | Resource     | 7      | 创业融资实务                             | Entrepreneurial Financing Practices                  | Zhejiang Industry & Trade Vocational College         |
|                  |                                                     | Entrepreneur | 8      | 创业经营                               | Entrepreneurial Management                           | Shenzhen Polytechnic University                      |
|                  | Practical Application                               |              | 9      | 创业模拟实训                             | Entrepreneurial Simulation Training                  | Nanjing Vocational University of Industry Technology |
|                  | Entrepreneurship and Speciality Integration Courses |              | 10     | 跨境电商创业                             | Cross-border E-commerce Entrepreneurship             | Yiwu Industrial & Commercial College                 |
| 11               |                                                     |              | 互联网+创业 | Internet + Entrepreneurship        | Jiangsu Vocational Institute of Commerce             |                                                      |
| 12               |                                                     |              | 行业创业实践 | Industry Entrepreneurship Practice | Hangzhou Polytechnic                                 |                                                      |



## **2. TARGET GROUP**



学生用户  
STUDENT USER



教师用户  
TEACHER USER



企业用户  
ENTERPRISE USER



社会用户  
SOCIAL USER



## **4. CURRICULUM APPROACH**

## **5. KEY ACTIVITIES**

# Online Courses with Flexibilities



## Overall design

- User-centered
- Combining the characteristics of entrepreneurship and innovation education

Overall planning

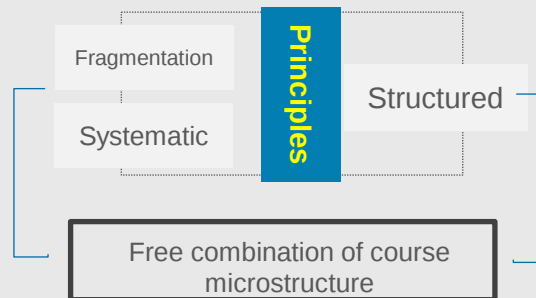
Resources development  
Overall platform design  
Cross-regional collaboration

Achieve

Accessible, popularizable,  
applicable, and creative  
resources



## Granular resources



Meet the personalized needs  
of users  
**Quickly learn and extract  
resource**



## Structured courses

- Standardized curriculum as the core
- Personalized curriculum for expansion

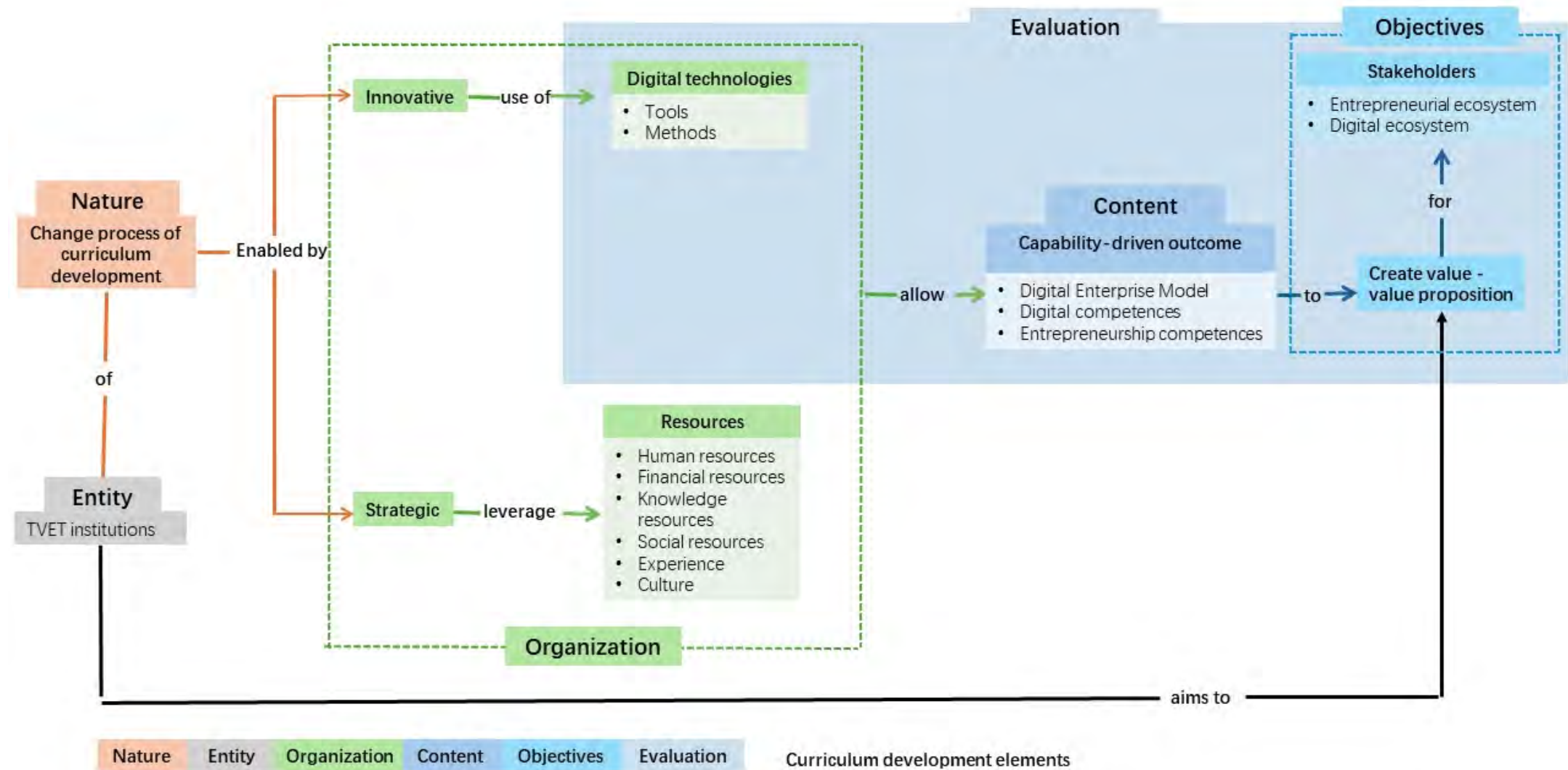
**Reconstruct**

Innovation and entrepreneurship  
curriculum system

**Satisfy**

Online and offline  
learning needs





The conceptual framework for exploring the curriculum development of digital transformation in entrepreneurship education

(Source: Zeng et al., Volume 1, No. 16, 2024, Vocation, Technology & Education)

# The 12 Core Courses

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|                  | Knowledge and Skills                                |              | 2      | 创新方法与训练                            | Innovation Methods and Training                      | Tianjin Light Industry Vocational Technical College  |
|                  | Practical Application                               |              | 3      | 创客技术                               | Maker Technology                                     | Zhongzilian Education Technology Co. Ltd             |
| Entrepreneurship | Thinking and Awareness                              |              | 4      | 创业基础                               | Entrepreneurship Basics                              | Zhejiang Industry & Trade Vocational College         |
|                  | Knowledge and Skills                                | Opportunity  | 5      | 商机识别与创业营销                          | Opportunity Identification and Marketing             | Shandong Institute of Commerce and Technology        |
|                  |                                                     | Team         | 6      | 创业素质测评与团队建设                        | Entrepreneurial Quality Assessment and Team Building | Ningbo Polytechnic                                   |
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| 11               |                                                     |              | 互联网+创业 | Internet + Entrepreneurship        | Jiangsu Vocational Institute of Commerce             |                                                      |
| 12               |                                                     |              | 行业创业实践 | Industry Entrepreneurship Practice | Hangzhou Polytechnic                                 |                                                      |

## **Resources Overview**

### **•Human Resources:**

- Courses include diverse experts: teachers, entrepreneurs, and specialists.
- Field-specific experts in courses like "Internet + Entrepreneurship" and "Maker Technology."
- "Entrepreneurial Quality Assessment" and "Team Building" rely on teachers and mentors.
- Practical insights from mentors in "Cross-border E-commerce Entrepreneurship" and "Entrepreneurial Simulation Training."

### **•Financial Resources:**

- All courses receive development and implementation funding.
- Additional funding for practical projects in courses like "Cross-border E-commerce Entrepreneurship" and "Entrepreneurial Financing Practices."
- Varying levels of financial support across courses.

### **•Knowledge Resources:**

- Learning materials include textbooks, online resources, and case libraries.
- Extensive resources in "Entrepreneurial Management" and "Maker Technology."
- Industry-specific knowledge in "Industry Entrepreneurship Practice."

### **•Social Resources:**

- Access to alumni networks, enterprise partners, and practice bases.
- Networking opportunities in "Internet + Entrepreneurship" and "Opportunity Identification."
- Industry-specific connections in "Industry Entrepreneurship Practice."

### **•Experience:**

- Practical experiences like internships and projects are key.
- Significant hands-on learning in "Entrepreneurship Basics" and "Cross-border E-commerce Entrepreneurship."
- Role-playing and simulations in "Entrepreneurial Simulation Training."

### **•Culture:**

- Emphasis on entrepreneurship and innovation cultures.
- Cross-cultural understanding in "Cross-border E-commerce Entrepreneurship."
- Industry-specific focus in "Industry Entrepreneurship Practice."



## **7. CORE TEAM**

## **11. ORGANIZATIONAL STRUCTURES**

# Macro Perspective: Project Management

## 1. Formulation and introduction of a range of standards and regulations

- Set up a Project Management Team and Panel.
- Develop manuals and guidelines for the main/training courses, sub-databases, and scenarios.
- Individually contract with individuals responsible for each course/sub-database/scenario, outlining specific goals and indicators.
- Regularly report data by tracking the quality and quantity of users and resources.

## 2. Normalized management

- **SZPU** coordinates and is responsible for the planning, coordination and project management for constructing the entire project.
- **ZITVC** coordinates and is responsible for user applications, data monitoring and reporting, and tracking of resources and user activity.
- **NVUIT** coordinates and is responsible for monthly, quarterly and annual reporting, data analysis, monitoring progress, etc.
- The construction of every course/sub-database/scenario is supported by a tutor, and the tutors assesses regularly according to the data reports.



# The 12 Core Courses

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|                  | Knowledge and Skills                                | Opportunity  | 5      | 商机识别与创业营销                          | Opportunity Identification and Marketing             | Shandong Institute of Commerce and Technology        |
|                  |                                                     | Team         | 6      | 创业素质测评与团队建设                        | Entrepreneurial Quality Assessment and Team Building | Ningbo Polytechnic                                   |
|                  |                                                     | Resource     | 7      | 创业融资实务                             | Entrepreneurial Financing Practices                  | Zhejiang Industry & Trade Vocational College         |
|                  |                                                     | Entrepreneur | 8      | 创业经营                               | Entrepreneurial Management                           | Shenzhen Polytechnic University                      |
|                  | Practical Application                               |              | 9      | 创业模拟实训                             | Entrepreneurial Simulation Training                  | Nanjing Vocational University of Industry Technology |
|                  | Entrepreneurship and Speciality Integration Courses |              | 10     | 跨境电商创业                             | Cross-border E-commerce Entrepreneurship             | Yiwu Industrial & Commercial College                 |
| 11               |                                                     |              | 互联网+创业 | Internet + Entrepreneurship        | Jiangsu Vocational Institute of Commerce             |                                                      |
| 12               |                                                     |              | 行业创业实践 | Industry Entrepreneurship Practice | Hangzhou Polytechnic                                 |                                                      |

# Micro Perspective: Sub-Project Management



## 初创团队组建与管理

所属项目: 创新创业  
项目来源: 国家项目  
所属分类: 公共基础与通识教育/创新创业教育  
课程层次:  
创建时间: 2019年03月14日  
课程学时: 32  
开课周期: 2019年03月15日 - 2099年01月01日

[加入课程](#)[收藏课程](#)[初创团队组建与管理](#)

3731人正在学习

教学大纲

课程简介

课程教材

课程评价

推荐课程

知识图谱

课程概述视频

构建创业型领导力

提升创业者自我认知

强化创业者沟通力

规划团队事业蓝图

制订团队组建方案

制订团队招聘方案

初创团队股权设计方案

制订团队文化建设方案

附录1:大学生创业项目经营评审视频

附录2: 项目案例

主讲教师



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曾秀臻  
深圳职业技术大学  
讲师

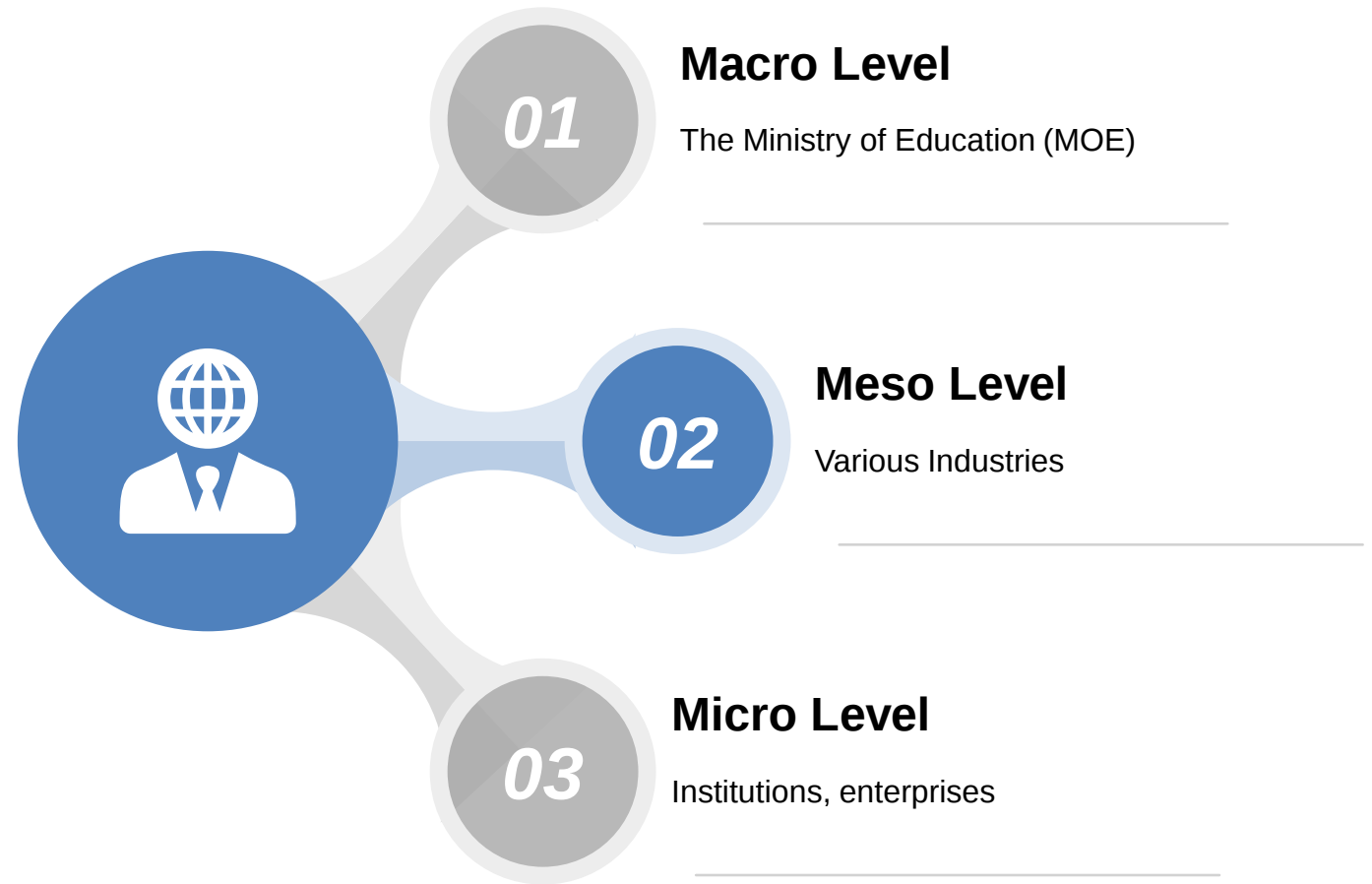
学习成员

田丽 李洪真 郭玉冰 汪明 孙娟  
叶正晓 周瑾涛 杨雨婷 谭阳 许晓冰



## **8. KEY STAKEHOLDERS**

## Stakeholders in the Entrepreneurial Ecosystem – 3M



(Source : New qualifications and competencies for future-oriented and attractive TVET systems)



# Development Achievements

All indicators are achieved at or above the performance target

## Quantitative indicators

**24637 granular resource items**  
(Target value **15000**, completion ratio **150.67%**)

|                                      |                                       |                                   |
|--------------------------------------|---------------------------------------|-----------------------------------|
| <b>8906</b><br>Video items           | <b>918</b><br>Animation items         | <b>2293</b><br>Micro-course items |
| <b>98.90%</b><br>Active resources    | <b>8</b><br>Professional core courses | <b>4</b><br>Enrichment courses    |
| <b>25</b><br>Social training courses | <b>9</b><br>Featured sub-libraries    | <b>10</b><br>Typical Scenarios    |

## Qualitative indicators

| Indicator name                       | Target value | Achieved value |
|--------------------------------------|--------------|----------------|
| Percentage of original resources (%) | <b>35%</b>   | <b>78.2%</b>   |
| Percentage of active resources (%)   | <b>20%</b>   | <b>98.9%</b>   |
| Number of registered student users   | <b>27900</b> | <b>293378</b>  |
| Number of faculty users              | <b>600</b>   | <b>7435</b>    |
| Number of covered institutions       | <b>70</b>    | <b>2246</b>    |

## Timeliness indicators

Timely completion of tasks reaches **100%**; the construction unit's coverage of student users in relation to innovation and entrepreneurship education in higher TVET institutions is about **52.5%**; and the proportion of faculty users in the construction unit is about **45%**

## Cost indicators

The rate of implementation of income budget reaches **100%**, and the rate of implementation of expense budget reaches **99.99%**

## Social benefit indicators and sustainable impact

The proportion of institutions using resource libraries is about **60%**  
The social learner users are about **2196**  
The coverage of school-level resource libraries of the first hosting unit reaches **30.67%**  
The coverage of school-level resource libraries of joint hosting units reaches **28.80%**

**Service satisfaction indicator 98%**

# Development Achievements

## Promotion of the application

Promote the mass entrepreneurship and innovation education and teaching reform under the results-oriented principle



Reform and practice of progressive entrepreneurship education deeply integrated with professional education  
First prize of national teaching achievement in 2018

**457** prizes were awarded in various types of mass entrepreneurship and innovation competitions, of which the participating institutions won **11** gold prizes in the Internet+ National Competition

The faculty won **104** awards at the municipal level and above, and published **138** papers. It acquired **255** independent intellectual property grants and conducted **73** training courses of various types.

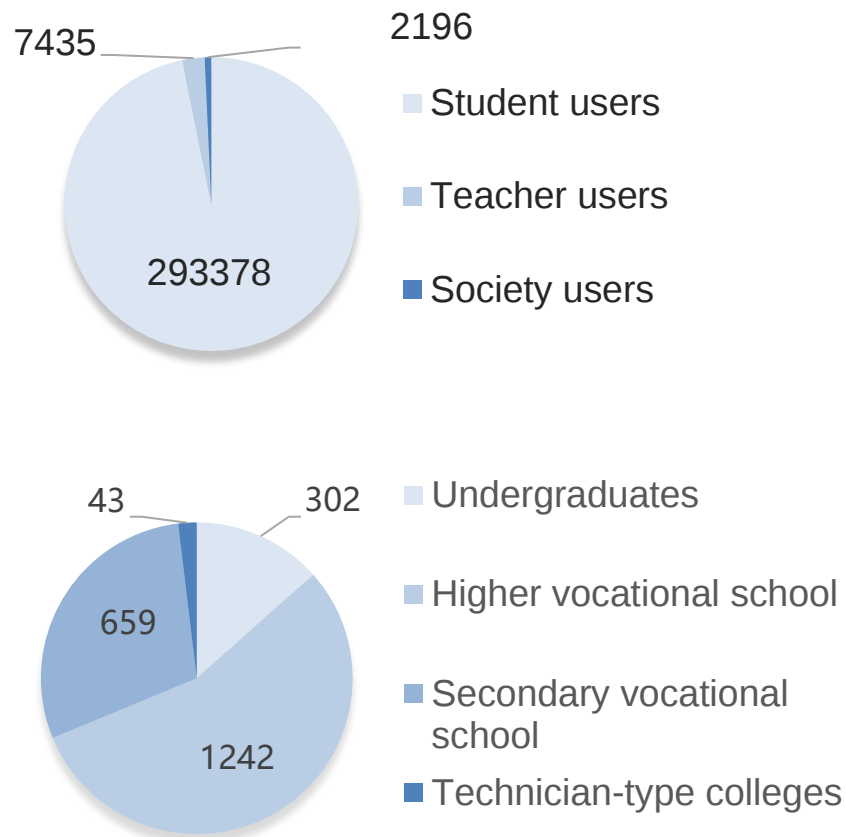
### Resource Library Participating Universities and Colleges' List of Gold Awards in Previous China International "Internet+" College Students' Innovation and Entrepreneurship Competitions

| S/N | Track            | Year | Session | Award | Institution                                            |
|-----|------------------|------|---------|-------|--------------------------------------------------------|
| 1   | Vocational Track | 2020 | Sixth   | Gold  | Shenzhen Polytechnic                                   |
| 2   | Vocational Track | 2020 | Sixth   | Gold  | Shenzhen Polytechnic                                   |
| 3   | Vocational Track | 2020 | Sixth   | Gold  | Nanjing Vocational University of Industry Technology   |
| 4   | Vocational Track | 2020 | Sixth   | Gold  | Jinhua Polytechnic                                     |
| 5   | Vocational Track | 2020 | Sixth   | Gold  | Guangdong Industry Polytechnic                         |
| 6   | Vocational Track | 2019 | Fifth   | Gold  | Jiangsu Vocational College of Agriculture and Forestry |
| 7   | Vocational Track | 2019 | Fifth   | Gold  | Tianjin Light Industry Vocational Technical College    |
| 8   | Vocational Track | 2019 | Fifth   | Gold  | Wuhu Institute of Technology                           |
| 9   | Vocational Track | 2019 | Fifth   | Gold  | Nanjing Vocational University of Industry Technology   |
| 10  | Vocational Track | 2019 | Fifth   | Gold  | Nanjing Vocational University of Industry Technology   |
| 11  | Vocational Track | 2019 | Fifth   | Gold  | Shandong Institute of Commerce and Technology          |



# Development Achievements

As of August 27, the database has **627,935** registered users.



The application of the resources covers **31** provincial administrative regions and 2,246 institutions, including **Tsinghua University**, **Peking University** and other top colleges and universities in China

# National TVET Smart Education Platform

**National TVET Smart Education Platform (launched on March 28, 2022)**

- Portal + Search Engine: Connecting various resource systems and platforms.
- Establishing a national-level real-time monitoring, online analysis, prediction, and comprehensive optimization and scheduling system.



- **This platform integrates various existing resource systems and platforms**
- **Modules: Programmes T&L database, online quality courses, video open classes, virtual simulations, teacher capacity enhancement, teaching materials, and enterprise resources.**
- **Levels of Programme T&L database: National, provincial, institutional.**

We can link and interact with different types of resources within the entrepreneurial ecosystem by constructing the **National Level TVET Programme Teaching and Learning Database of Innovation and Entrepreneurship?**

**Why?**

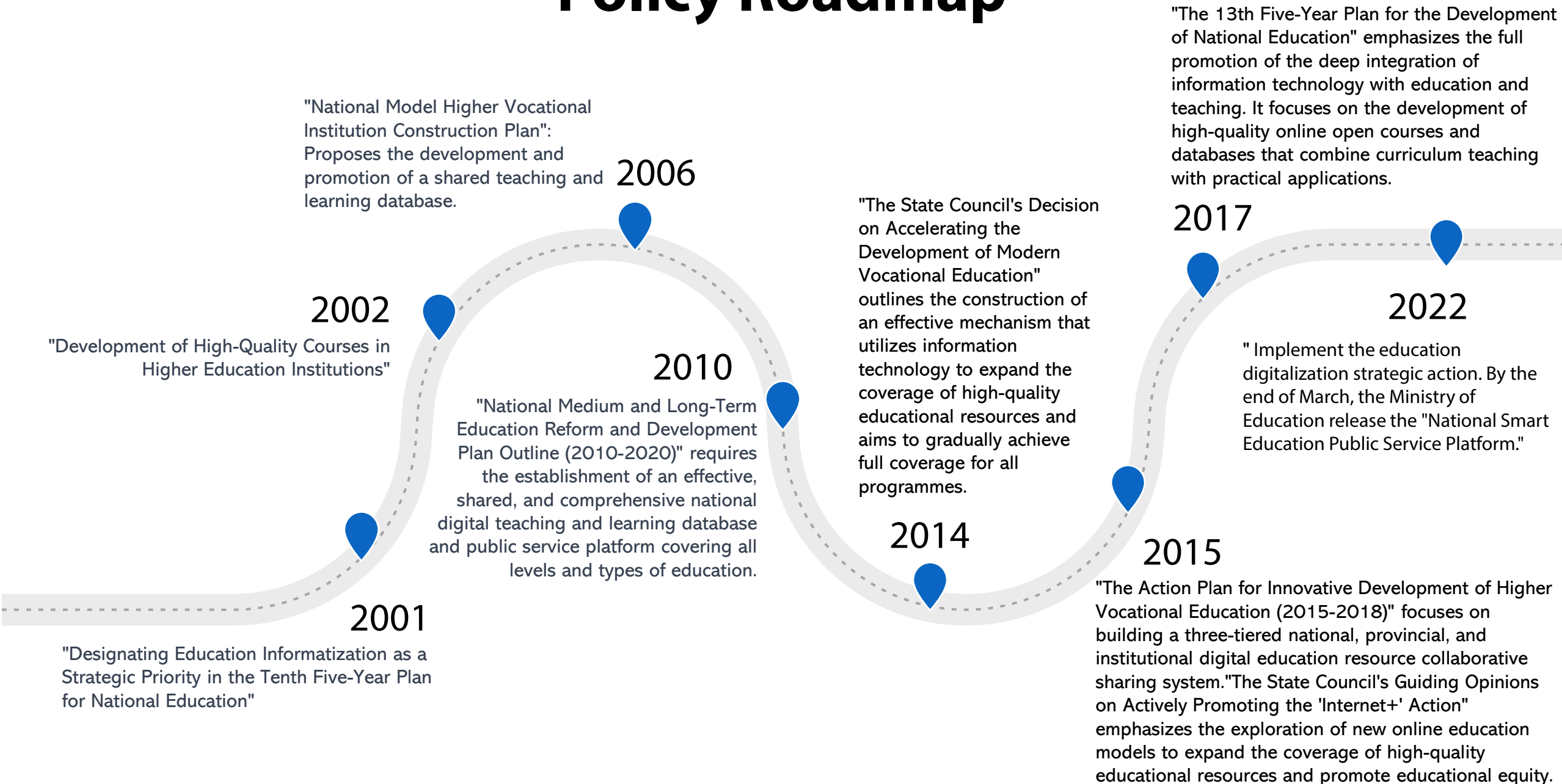


# **1. Supports from the MOE for Databases Construction**



# 1.1 Policy Supports

# Policy Roadmap

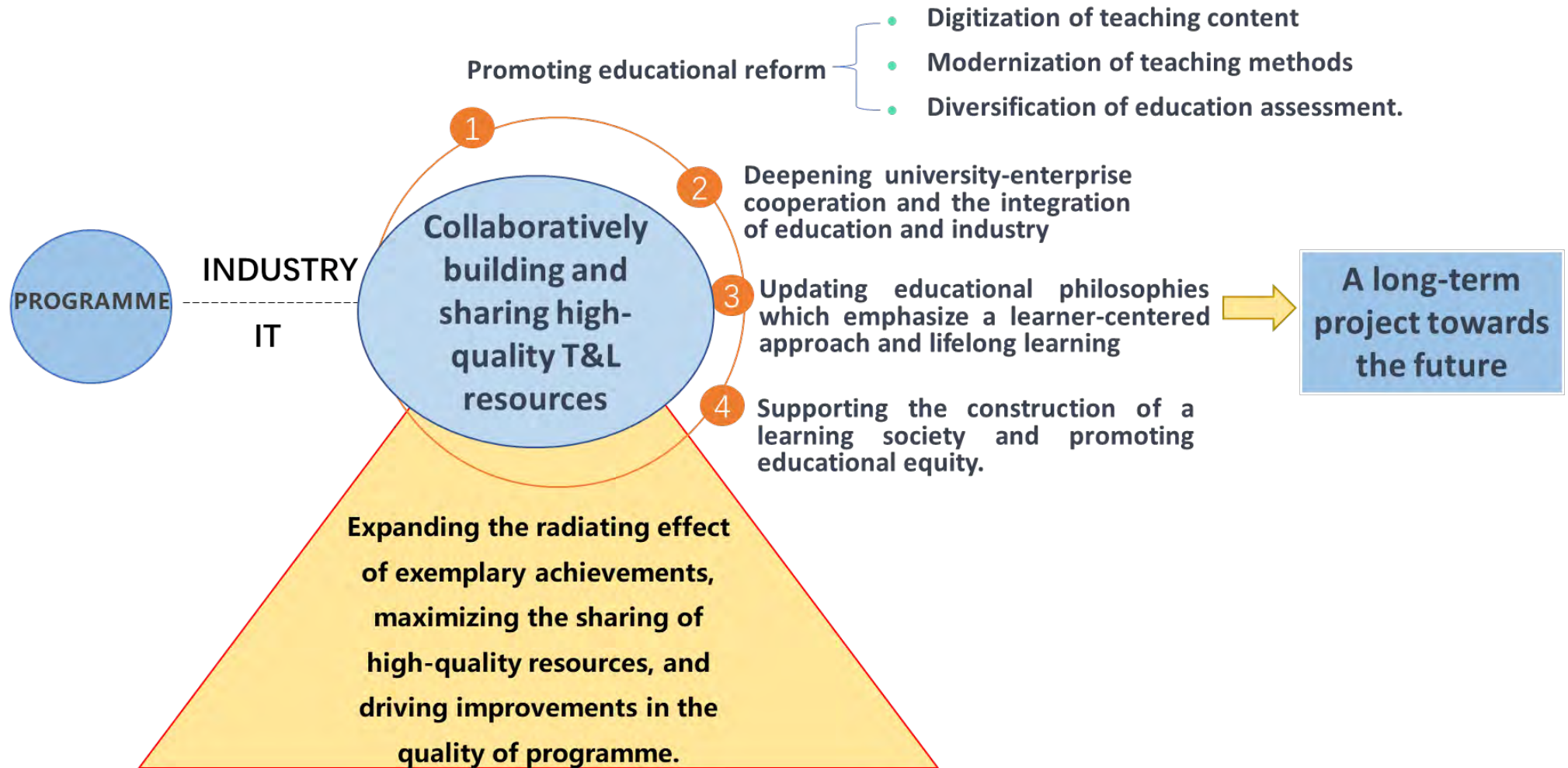




## 1.2 Significance

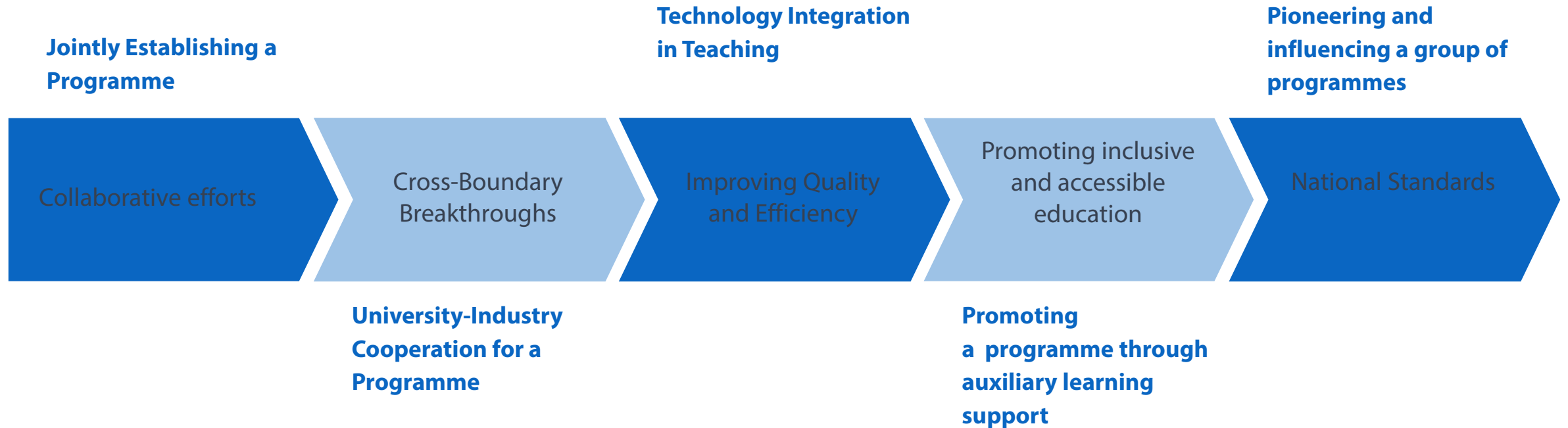
## National Level

# Significance(1)



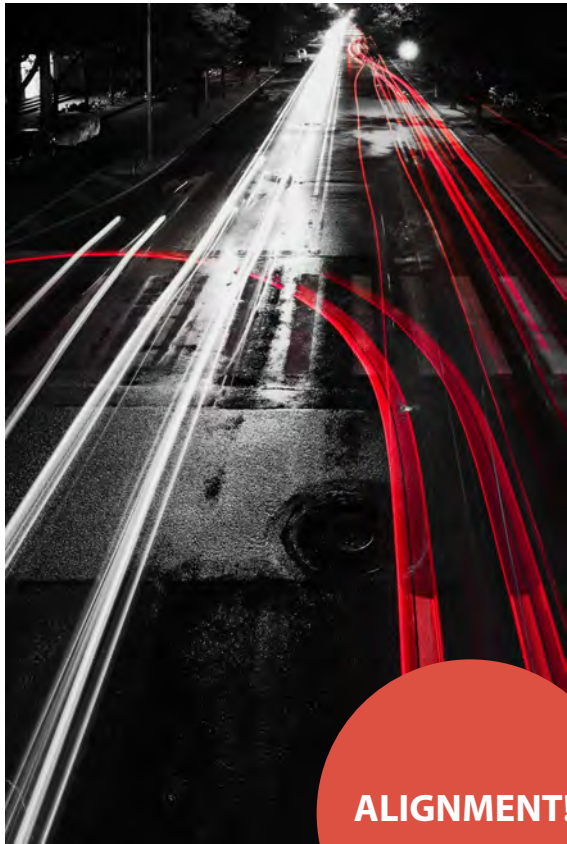
**National Level**

# Significance(2)



# National Level Significance (3)

In alignment with TVET reform



Selected excerpts from the "20 Measures for TVET reform"

- Enhancing education and teaching standards, aligning programs with industry needs, and ensuring the alignment of curriculum content with occupational standards.
- Strengthening TVET resources and conducting high-quality TVET.
- Initiating the 1+X certificate system to acquire vocational skills qualification
- Achieving the recognition, accumulation, and conversion of learning outcomes.
- ...

Construction Requirements for TVET Programme T&L Database

- Programme syllabuses, curriculum syllabuses, standards for textbooks, vocational skills standards.
- To serve current students, employees, and individuals in society, and enhance the capabilities of TVET for social learners.
- High-quality teaching and TVET resources, achieving collaborative sharing of high-quality resources between institutions and between institutions and industries.
- Exploring resource trading mechanisms where schools can receive compensation for intellectual property, patents, education, labor, and other contributions.
- ...

## Institutional Level

# Significance (4)



### Qualification

One of the conditions for higher TVET institutions to be selected for the "Double High-level Plan."



### Business Card

Demonstrating strengths in teaching reform, curriculum development, and influencing the field nationally within the same specialty, which benefits enrollment and image promotion, among other aspects



### Status

A reflection of the position within the TVET institutions, a leading figure in the professional field, and an alliance with complementary strengths.



### Funding

**A dedicated fiscal budget of 5 million, total funding exceeding 10 million, emphasizing the concentration of financial resources for significant initiatives; the National T&L Databases project is currently the only education ministry initiative with central financial support.**



### Key Focus

Emphasis on integration of industry and education, teaching reform, and enhancement of information technology.



## **2. Supports from the MOE for Sustainability**

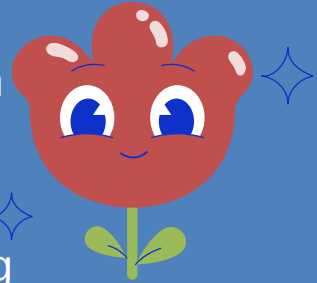


## **2.1 The Virtual Pedagogical Research Hub Initiative**

# Traditional Pedagogical Research Units VS Virtual Pedagogical Research Hubs

## Significance of Traditional Pedagogical Research Units

- Essential in China's higher education system as mainstream grassroots teaching organizations.
- Crucial for implementing teaching tasks, conducting research activities, and advancing teaching reforms.



## Emergence of Virtual Pedagogical Research Hubs

- Driven by the integration of information technology and education.
- Supported by the national digital education strategy, providing essential technical conditions and guidance.
- Transition from traditional forms to information technology-supported virtual formats due to internal educational development needs, national policy guidance, and technological advancements.



# Foundations for Constructing the Lihu International Virtual Pedagogical Research Hub for Innovation and Entrepreneurship in TVET

## Constructors of the National Level TVET Programme Teaching and Learning Database of Innovation and Entrepreneurship:

- Shenzhen Polytechnic University
- 29 top-tier domestic TVET institutions
- 11 top enterprises

## Constructors of the Lihu International Virtual Pedagogical Research Hub for Innovation and Entrepreneurship Education in TVET:

- Shenzhen Polytechnic University
- 16 top-tier domestic TVET institutions and top educational enterprises
- Xuetang X
- Research & Training Centre for UNESCO Asia-Africa TVET Project



## **2.2 The Re-accreditation of the National-level TVET Database**

# The Roadmap of Accreditation



01

## Pre-apporval with National Accreditation

- . Year: 2018
- . Application Accepted by: the MOE
- . Construction Period: 2 years

02

## Approval with national accreditation

- . Year: 2020
- . Accreditation Approved by: : the MOE
- . Status: The only nationally accredited TVET programme T&L database in the field of innovation and entrepreneurship in China

03

## Application for Re- accreditation

- . Year: 2023
- . Application Accepted by: : the MOE
- . Construction Period: 1 year



**Thank You for Your Attention!**