



# KNOWLEDGE FOUNDATION

KNOWLEDGE  FOUNDATION

Knowledge Foundation : <https://KnowledgeFound.org> | Knowledge Token® : <https://KnowledgeFound.org/token>

## COLLABORATORS

- Immersive Education Initiative (USA)
- Lucerne University of Applied Sciences and Arts (Switzerland)
- Massachusetts Institute of Technology (MIT) Bitcoin Club (USA)
- University of Oxford Blockchain Research Centre (UK)
- University of Zurich Blockchain Center (Switzerland)
- Yale University Blockchain Club (USA)
- Brown University Blockchain Club (USA)
- DFINITY Foundation (Switzerland)

## INTERNATIONAL PARTNERS

- United Nations Office on Drugs and Crime (UNODC)
- United Nations Global Resource for Anti-Corruption Education and Youth Empowerment (GRACE) initiative

# OVERVIEW

## Summary

The [Knowledge Foundation](#) is a Switzerland-based non-profit education foundation responsible for the design, development, deployment and ongoing maintenance of the global [Knowledge Token](#)<sup>®</sup> system, protocols and related [Open International Standards](#) (OIS) in the field of education.

## Intellectual Currency

Knowledge Token<sup>®</sup> was introduced to the public in 2017 at the international [Immersive Italy Summit](#) held in collaboration with the [Italian Ministry of Education, University and Research](#).

The digital token system and protocols fundamentally transform the way in which learners, educators, and educational content creators acquire, value, distribute and generate knowledge.

The Knowledge Foundation adheres to the core principle of being "open to all" and, as such, follows an open and inclusive global participatory approach to the design, development and deployment of Knowledge Token<sup>®</sup> that benefits from direct discussions and collaborations with international leaders in global education such as the [United Nations Educational, Scientific and Cultural Organization \(UNESCO\)](#) and the [United Nations Office on Drugs and Crime \(UNODC\)](#).

As an incentive and participation token that is awarded to learners in exchange for intellectual achievements, while privately and securely recording corresponding academic progress, Knowledge Tokens are issued in amounts that correspond to the units or amounts of knowledge, skills and/or credits that learners earn.

The protocol utilizes advanced cryptography to privately and securely record and represent the detailed knowledge, skills and/or credit earned via formal and informal education, educational software (e.g., websites, apps, etc.), training exercises, self-paced and self-directed educational experiences, professional development (PD), and other forms of teaching, training and education.

Knowledge Token<sup>®</sup> is *intellectual currency* that may be used to pay for essential goods and services as well as those related to education (e.g., electricity, food, water, Internet access, textbooks, tuition, courses, learning games, electronic devices such as mobile phones and computers, etc.).

As a programmable digital asset, custom and region-specific renditions of the token can be programmed with precise redemption restrictions, such as only being redeemable for certain food products through trusted local vendors and at a limited rate. A given class of tokens, for example, can be programmed to be spendable for up to one kilo of rice every two weeks, and only from a certain local grocery store. Likewise, a token might be programmed to only be useful for "unlocking" specific online educational materials such as lessons, courses and textbooks that are directly relevant to that particular learner's academic path.



*United States National Park Service collaboration with [Immersive Education](#) high school and college Clubs and Camps*

Knowledge Foundation and Knowledge Token® originated with the not-for-profit [Immersive Education Initiative](#) whose thousands of members service millions of learners globally.

Composed of the world's foremost experts in immersive learning and immersive learning technology, the Immersive Education Initiative is an international collaboration between educational institutions, research institutes, museums, consortia and companies.

The Immersive Education Initiative was established in 2005 with the mission to define and develop standards, best practices, technology platforms, training and education programs, and communities of support for virtual worlds, virtual reality, augmented and mixed reality, simulations, game-based learning and training systems, immersive teaching and immersive learning platforms, and fully immersive environments such as caves and domes.

Over the past 20 years Immersive Education Initiative participants and collaborators have included faculty, researchers, staff, administrators and professionals from Harvard University (Harvard Graduate School of Education, Berkman Center for Internet and Society at Harvard Law School, and Harvard Kennedy School of Government), Massachusetts Institute of Technology (MIT), MIT Media Lab, The Smithsonian Institution, UNESCO (United Nations Educational, Scientific and Cultural Organization), United States Department of Education, National Aeronautics and Space Administration (NASA), United States Department of the Interior (DOI) National Park Service (NPS), United States National Portrait Gallery (NPG), Federation of

American Scientists (FAS), Stanford University, Cornell University, Boston College, University of California Los Angeles (UCLA), University of Southern California (USC), Columbia University Teachers College (TC), University of Maryland (UMD), Duke University, Amherst College, Google, Microsoft, Intel, Twitter, Disney, Oracle, Computerworld, University of Oxford, Italian Ministry of Education National Institute for Documentation, Innovation and Educational Research (INDIRE), the Louvre Museum and Palace of Versailles, Royal Institute of Technology (Sweden), Sorbonne University (France), Keio University (Japan), Nippon TV (Japan), National University of Singapore (NUS), Government of New South Wales (Australia), Israel Ministry of Education MOFET Institute (Israel), University of Glasgow (UK), European Learning Industry Group (ELIG), Università degli Studi di Padova (University of Padua, Italy), University of Zurich (Switzerland), Trinity College (Ireland), University of Barcelona (Spain), Italian National Research Council (Consiglio Nazionale delle Ricerche), Universidad Carlos III de Madrid (Spain), and many more world-class organizations detailed at <https://summit.ImmersiveEducation.org>



Fifteen of the thousands of [Immersive Education Initiative](#) collaborators and participants

# ORGANIZATIONAL STRUCTURE

*Enabling the acquisition, preservation, expansion and application of knowledge at national and regional levels*

## Governance

The design, development, deployment and ongoing maintenance of [Knowledge Token](#)<sup>®</sup> is governed by the Switzerland-based non-profit [Knowledge Foundation](#) working in concert with collaborators, international partners, and constituents.

To fulfill its global charter the Knowledge Foundation oversees and coordinates national and regional operational units that together form the foundation's distributed organizational structure.

## Operational Units

National and regional operational units decentralize and distribute the Knowledge Foundation's organizational structure by empowering nations and regions with direct oversight and control over how Knowledge Token<sup>®</sup> is used for their populace while enabling those nations and regions to reap the associated economic benefits.

To this end, Knowledge Foundation operational units conduct their respective activities in coordination with academic, economic and financial bodies and entities in their nation or region.

Operational units also appoint and oversee Knowledge Councils that work in collaboration with corresponding councils throughout the world:

### Coordinating Entities

- Ministries and Departments of Education
- Ministries and Departments of Economy and Commerce
- Central banks
- National and regional banks

## Knowledge Councils

Knowledge Foundation operational units appoint and oversee councils of experts in domains of knowledge, studies and learning deemed to be of importance to the nation or region in which they operate.

Knowledge Councils, in turn, are responsible for identifying specific and granular learning activities in their particular field of expertise (e.g., mathematics, science, history, art, culture, and so forth) for which Knowledge Tokens are awarded, and also propose the corresponding value of such activities so that the appropriate amount of tokens can be awarded to learners upon the successful completion of those activities.

## Open Participation

In keeping with the Knowledge Foundation's open and inclusive charter, national and regional stakeholders are invited to participate in a series of upcoming meetings, summits and symposia through which the policies, procedures, norms and standards for Knowledge Foundation operational units will be defined, codified and published.

Following is a partial list of locations for previous and upcoming events. For the complete list please refer to <https://summit.ImmersiveEducation.org/past>

- **Harvard University**  
Cambridge, United States
- **University of Oxford**  
Oxford, England
- **Université Paris-Sorbonne, Paris IV (The Sorbonne)**  
Paris, France
- **London School of Economics (LSE)**  
London, England
- **University of Stellenbosch**  
Stellenbosh, South Africa
- **University of Zurich**  
Zurich, Switzerland
- **Massachusetts Institute of Technology (MIT)**  
Cambridge, United States
- **United Nations, Vienna**  
Vienna, Austria

Corresponding events at Lucerne University of Applied Sciences and Arts (Switzerland), Yale University (USA), Brown University (USA) and global United Nations offices and headquarters are also anticipated.

At the conclusion of these meetings, summits and symposia the inaugural Knowledge Foundation operational units will be established and announced, followed by the publication of a calendar of annual events and activities that will be conducted in countries around the world to further facilitate the ongoing work and collaboration between established and emerging operational units and the Knowledge Foundation.



*National and regional operational units decentralize and distribute the Knowledge Foundation's organizational structure by empowering nations and regions with direct oversight and control over how Knowledge Token<sup>®</sup> is used for their populace while enabling those nations and regions to reap the corresponding economic benefits.*

# HACKATHONS

Global development of the most current rendition of Knowledge Token® commenced in March 2023 at the [2023 Oxford Knowledge Token Hackathon](#) (coding competition) that was held during the Knowledge Foundation's 2023 Blockchain in Education Summit at [University of Oxford](#).

Based on the success of Oxford and subsequent Knowledge Foundation hackathons, on 09 April 2024 the Knowledge Foundation, United Nations Office on Drugs and Crime (UNODC) and DFINITY Foundation officially announced a 3-year partnership to fundamentally transform the way in which learners, educators, and educational content creators acquire, distribute and generate knowledge via Knowledge Token® on the Internet Computer platform.

Over the coming three years the organizations will co-develop an innovative suite of AI and blockchain technology products to educate participants on anti-corruption topics through a series of unique hackathon events under the UNODC Coding4Integrity youth hackathon framework.

The hackathons, of which four occur each year for the coming three years, achieve this through the ongoing development of Knowledge Token® and corresponding [Open International Standards](#).

To date hackathons have been held in Qatar (in collaboration with the Administrative Control and Transparency Authority of the State of Qatar and Microsoft), South Africa (hosted by Stellenbosch University in collaboration with South Africa's National Institute for Theoretical and Computational Sciences), and University of Oxford (hosted by Oxford Blockchain Research Centre in collaboration with IEEE Blockchain Technical Community).



*Oxford University is among the prestigious universities that host Knowledge Foundation hackathons*





Gold Medal Ceremony for the 2023 Arab Youth Anti-Corruption Hackathon (Doha, Qatar). Gold medals were presented to the winners during the United Nations [2023 Conference of the States Parties to the UN Convention against Corruption](#) (Georgia)



Closing Awards Ceremony in Doha, Qatar, for the 2023 Arab Youth Anti-Corruption Hackathon ([broadcast live on Al Jazeera](#))



Hackathon Cultural Exchange



Hackathon Cultural Exchange



*Hackathon Cultural Exchange*



# KNOWLEDGE ACCELERATORS

Knowledge Accelerators (KAx) are locally-run non-profit Knowledge Foundation communities focused on growing and upskilling regional and local technology talent through smaller and more frequent hackathons, challenges, meetings, talks, discussions, break-out sessions, demos, workshops and webinars that revolve around advanced and emerging technologies (AI, virtual reality and augmented reality, robotics, blockchain and so forth).

Initial Knowledge Accelerators are planned for South Africa, Saudi Arabia, Qatar, United Arab Emirates (UAE), Bulgaria, Egypt, Kenya, Nigeria, Ghana, Rwanda, Indonesia, and India.

Ongoing Knowledge Accelerator locations will be selected in view of the international scope of the [United Nations Secretariat](#) and its specialized agencies, with a particular focus on the Global South, using a bottom-up approach that strengthens the technical knowledge, high-tech skills and economic interests of the communities that the Knowledge Foundation serves.



The first Knowledge Accelerator will be announced at the [2024 South Africa Hackathon](#) that is hosted by University of Pretoria from September 14 to 15 in collaboration with Stellenbosch University, South Africa's National Institute for Theoretical and Computational Sciences (NITheCS) and the Switzerland-based Knowledge Foundation.

# SUMMITS

Starting in 2022 at the inaugural "[Swiss Summits](#)" the Knowledge Foundation and Knowledge Token® became officially part of all [Immersive Education Summits](#) going forward.

International in scope, Immersive Education Summits began in 2005 as formal conferences and symposia organized to give educators, researchers, administrators, business leaders and the public early access and hands-on experience with advanced and emerging technologies.

Over the past 20 years Immersive Education Summits and associated events have been hosted by Harvard University, University of Oxford, Sorbonne University, Boston College, London School of Economics (LSE), Università degli Studi di Padova (University of Padua, Italy) and other world-class institutions detailed at <https://summit.ImmersiveEducation.org>

Summit speakers, collaborators and partners include Massachusetts Institute of Technology (MIT), MIT Media Lab, Smithsonian Institution, UNESCO (United Nations Educational, Scientific and Cultural Organization), United States Department of Education, NASA, United States Department of the Interior (DOI), Federation of American Scientists (FAS), Boston College, Stanford University, Cornell University, University of California Los Angeles (UCLA), University of Southern California (USC), Harvard University, University of Oxford (UK), London School of Economics (LSE), the Louvre Museum and Palace of Versailles (Paris), Google, Microsoft, Intel, Twitter, Disney, and more.



Knowledge Foundation and Knowledge Token® are part of all [Immersive Education Summits](#) as of the [2022 Swiss Summits](#)

# BACKGROUND MATERIALS

**Government projects:** <https://ImmersiveEducation.org/governments>

**Smithsonian collaboration:**

[https://ImmersiveEducation.org/news/IMMERSION\\_2014\\_SMITHSONIAN](https://ImmersiveEducation.org/news/IMMERSION_2014_SMITHSONIAN)

<https://www.youtube.com/watch?v=bdtAxATOemw>

<https://www.youtube.com/watch?v=cMhBiu0YJ3s>

**NASA:** [https://mediagrid.org/news/2009-09\\_RocketWorld.html](https://mediagrid.org/news/2009-09_RocketWorld.html)

**Australian Immersive Cultural Exchange:**

<https://ImmersiveEducation.org/news/2015/11/24/minecraft-students-1st-international-immersive-cultural-exchange>

**Australia Expands Knowledge Token<sup>®</sup> Program:**

<https://immersiveducation.org/news/2019/09/12/australian-school-expands-knowledge-token-incentive-and-reward-program>

**Italian Ministry of Education + Immersive Education Collaboration:**

<https://ImmersiveEducation.org/news/2017/10/20/italian-ministry-education-and-immersive-education-initiative-collaboration>

**Knowledge Tokens at Immersive Italy (Italian Ministry of Education collaboration):**

<https://ImmersiveEducation.org/news/2017/11/14/knowledge-tokens-announced-immersive-italy-2017>

**New Mexico USA schools in Knowledge Token<sup>®</sup> enabled Immersive Learning Spaces:**

<https://ImmersiveEducation.org/New-Mexico-Immersed-in-Learning>

**Immersive Learning Spaces (Knowledge Token<sup>®</sup> enabled):** <https://ImmersiveEducation.org/spaces>

**Immersive Clubs (Knowledge Token<sup>®</sup> enabled):** <https://ImmersiveEducation.org/clubs>

**Immersive Camps (Knowledge Token<sup>®</sup> enabled):** <https://ImmersiveEducation.org/camps>

**Immersive Summer Camps (Knowledge Token enabled):**

<https://immersiveducation.org/Immersive-Learning-Camps-Announced>

**More (NEWS):** <https://ImmersiveEducation.org/news>

**Conference archives:** <https://summit.ImmersiveEducation.org/past>

**Video archives:** <https://youtube.com/@ImmersiveED/videos>



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