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Blockchain and Cryptoasset Initiatives at Polish Higher Education Institutions: A Structured Inventory and Selected Case Studies

Abstract

This paper documents and analyses the evolution of blockchain- and cryptoasset-related initiatives in Polish higher education institutions (HEIs) over the period 2012–2025. It contributes (i) a structured inventory of sustained, institutionally anchored initiatives (Appendix A) and (ii) harmonised case studies selected using a transparent selection criteria emphasising recurrence, organisational anchoring, stakeholder breadth, and traceability. The scope covers education (degree programmes, postgraduate studies, courses), research groups and projects, recurring academic–industry events, and selected implementation-oriented deployments (notably digital credentials and micro-credentials). Empirically, the Polish trajectory shows an early grassroots wave (2013–2014), a mid-2010s phase of institutionalisation centred on recurring conferences and research groups, and a post-2018 expansion into curricula and implementation-driven initiatives, including micro-credentials supported by distributed ledger technology (DLT). Methodologically, the study combines open-source evidence (official HEI pages, public catalogues, conference materials) with curated documentary archives provided by the author (agendas, archived PDFs, correspondence) when public records are incomplete; vendor-reported information is treated as stakeholder evidence and explicitly flagged. The findings clarify the main channels through which blockchain-related knowledge and practices diffused into Polish academia and identify gaps relevant for research policy and academic–industry collaboration.

Keywords: Blockchain, cryptoassets, higher education, Poland, digital credentials, micro-credentials, industry–academia collaboration, case study

Introduction

Blockchain and cryptoasset-related topics entered higher education through multiple channels: grassroots communities, cryptography and distributed-systems research, dedicated curricula, and implementation-oriented credentialing solutions (digital diplomas, micro-credentials). In Poland, these channels developed in parallel, often at the boundary between academia and industry, yet the record remains fragmented across websites, student-organisation archives, and dispersed documentary traces. This fragmentation matters: higher education is not only a training pipeline for the labour market, but also a key intermediary that translates emerging technologies into standards, institutional practices, and policy-relevant expertise.

This paper documents and analyses the development of blockchain- and cryptoasset-related initiatives at Polish higher education institutions (HEIs) and adjacent HEI-anchored structures. It offers two contributions. First, it compiles a structured, verifiable inventory (Appendix A) of sustained initiatives. Second, it provides a set of harmonised case studies of the most sustained and/or institutionally significant initiatives, including recurring academic–industry conferences, a national postgraduate programme, early Bitcoin seminar series, an international Olympiad in its Polish editions, and selected R&D/implementation-oriented projects.

The study addresses three practical questions: (1) what types of blockchain/crypto initiatives became institutionally anchored in Polish HEIs, (2) when and through which

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waves these initiatives emerged (from early grassroots activity to later curricular and implementation-driven developments), and (3) which mechanisms of academia–industry interaction were most visible in the Polish case. The analysis is intentionally limited to documented evidence: one-off events are excluded unless they formed part of a documented series, and vendor disclosures are treated as stakeholder evidence rather than independent confirmation. The paper is organised as follows: the next section provides a brief international context (with emphasis on credentials and EU reference architectures), and the next ones: explains data and methods, summarises the observed pattern at a high level, presents case studies, and discusses implications and limitations; the Appendix provides the inventory table.

Background and International Context

Prior research discusses blockchain applications in education, including credentialing and credit/record infrastructures, while also highlighting the gap between prototypes and institutionally embedded deployments (Alammary et al., 2019; Turkanović et al., 2018). Early policy-oriented mappings of "blockchain in education" framed the topic primarily through credentialing and administrative use cases (Grech & Camilleri, 2017). Survey-based evidence from Poland discusses micro-credentials as an instrument in academic education and provides contextual signals on adoption and perceived value (Zalewska, 2025).

Internationally, HEIs have engaged with blockchain and related distributed-ledger technologies (DLTs) along three main lines.

First, the most visible and operationally mature strand concerns digital credentialing: issuing and verifying diplomas, certificates, and, increasingly, micro-credentials. The policy rationale is to enable portable, tamper-evident proofs of learning outcomes that can be verified independently, without repeated manual confirmation by the issuing institution. In the European context, micro-credentials have been explicitly framed as an instrument supporting lifelong learning, upskilling, and cross-border recognition, with implementation encouraged through common definitions and quality-related principles (European Commission, 2022). This policy stream aligns naturally with the broader European agenda on verifiable digital credentials and interoperability standards (Jones et al., 2026).

Second, a substantial share of academic activity remains anchored in cryptography and distributed systems research, where blockchain-related questions appear as extensions of long-standing research programmes (e.g., consensus mechanisms, smart-contract security, privacy-preserving protocols). In practice, many "blockchain" research outputs in HEIs emerge from cryptography groups rather than from newly created "blockchain centres", which matters methodologically when mapping initiatives: the same institutional node can generate blockchain-relevant work under broader cryptographic or security umbrellas.

Third, HEI engagement often materialises through recurring academic–industry events (conferences, forums, seminar series), which function both as knowledge-transfer mechanisms and as coordination points between researchers, regulators, and market actors. These events frequently predate formal degree programmes and can act as "institutional catalysts", shaping curricula and partnerships over time.

Within the EU, the European Blockchain Services Infrastructure (EBSI) is relevant as a policy-driven reference architecture for cross-border public services and credential-related use cases. Even when national initiatives do not directly build on EBSI, it provides a shared vocabulary for public-sector credentialing and an interoperability benchmark that influences how HEIs and vendors conceptualise verifiable credentials in education (European Commission, n.d.; Jones et al., 2026). In this paper, the international context is used primarily to motivate the inclusion of credentialing and standards-related implementations in the Polish inventory, rather than to provide a comparative evaluation of outcomes across countries.

Data and Methodology

Initiatives were identified and validated using four evidence streams: (a) official HEI websites and programme pages (including course catalogues where available), (b) conference websites and archived agendas/programmes, (c) public communications of student organisations and university-affiliated lists, and (d) archived documentary materials held by the author (PDFs, emails, agendas, and internal reports) used only where public traces were incomplete.

The inventory is intentionally conservative. Items are included only if they show institutional anchoring (e.g., a university unit, programme, formally affiliated organisation, or documented deployment) and traceability (a public record and/or auditable documentary evidence). One-off events (single lectures, isolated debates) are excluded unless they are part of a documented series with durable outputs.

For the recurring conference series, the evidence base relies on archived agendas, announcements and concept notes from the Digital Money Forum / Digital Money and Crypto/Blockchain Forum / Digital Money and Blockchain Forum series, which have not been published.

Evidence is coded as public record and/or archived documentation; items without a verifiable trace are not included. Approximate dates are explicitly flagged in the narrative rather than presented as exact.

Vendor-provided information (e.g., credentialing platforms) is treated as stakeholder evidence rather than independent confirmation. Such claims are included only when (i) at least partial institutional corroboration exists, or (ii) they are explicitly labelled as vendor-reported and discussed under stated limitations (e.g., disclosure constraints, missing

implementation dates). Case studies are selected using a set of criteria emphasising (i) longevity/recurrence, (ii) institutional anchoring, (iii) multi-stakeholder involvement, and (iv) documentary traceability.

In addition, the study uses a limited body of primary qualitative evidence in the form of semi-structured expert interviews. Two interviews were selected ex ante due to their direct relevance to higher-education initiatives analysed in the paper and their strong institutional anchoring. Interview-derived statements are used strictly as corroboration and are triangulated; the study does not claim representativeness.

Two limitations follow from this design: (1) the mapping undercounts initiatives that leave weak public traces, and (2) the evidence base is heterogeneous. The source-register approach mitigates this by making traceability explicit, but it does not eliminate omissions due to documentation gaps.

Results Overview

As explained in the next section, the inventory is conservative and includes only initiatives with institutional anchoring and an auditable trace; therefore, temporal claims are interpreted cautiously and are corroborated in the case-study narratives where documentary evidence is strongest.

The inventory suggests a qualitative, multi-wave trajectory. First, an early grassroots and seminar phase (2013–2014) established visible interfaces between academia and emerging crypto communities. Second, the mid-2010s show consolidation around recurring conferences and research-group activity. Third, after 2018 the landscape expands toward structured education (notably postgraduate and degree-level programmes) and implementation-driven initiatives, including DLT-supported credentialing and micro-credentials. While Appendix A enables a timeline-style reading, date granularity varies across items; accordingly, the discussion prioritises traceability over completeness.

Case Studies

Case studies are reported using a harmonised template covering: (a) origin and timeline; (b) organisational anchoring; (c) scope and outputs; (d) stakeholders and partnerships; (e) evidence base; (f) assessment (what was novel; what scaled; what did not).

Case: Early Bitcoin Seminars at the Warsaw School of Economics (SGH), 2013–2014

Early Bitcoin seminars hosted at the Warsaw School of Economics (SGH) in 2013–2014 are included as a case because they constitute one of the earliest repeatable, university-anchored formats through which cryptoasset-related knowledge was mobilised in Poland. Unlike isolated guest lectures, the SGH initiative is treated here as a traceable seminar sequence that combined academic framing with practitioner and policy-facing discussion at a moment when institutional adoption and regulatory narratives were still nascent.

The case is anchored in three elements: (i) a large open seminar held at SGH on 18 December 2013, and (ii) subsequent follow-up seminars in spring 2014 responding to major credibility and security shocks in the global Bitcoin ecosystem, and (iii) documented involvement of student and academic organisers that connected SGH with adjacent academic networks.

Analytically, the SGH seminars represent an early diffusion mechanism that is different from later, more formalised pathways (postgraduate programmes, credential infrastructures). The seminars operationalised three functions that are relevant for mapping higher-education initiatives:

1. Knowledge mobilisation before institutionalisation: public-facing academic debate created early legitimacy for the topic within a university setting and provided a meeting point for emerging expert communities.
2. Boundary-spanning coordination: the format linked academic discussion with practitioner experience and policy-relevant questions, lowering coordination costs for subsequent educational and professional initiatives.
3. A seedbed for later educational pipelines: seminar-based formats plausibly contributed to the later emergence of structured courses and postgraduate programmes by creating a stable nucleus of organisers, speakers, and repeat participants.

Where the documentary record permits, this case should be treated as the early "grassroots-to-academic-interface" wave in the broader trajectory reconstructed in the next section.

Evidence for the SGH seminar sequence relies on publicly accessible archival traces (e.g., event pages and recordings) and on supplementary documentary materials held in the author's archive where public records are incomplete. A publicly retrievable example is the recorded SGH seminar material published by the SGH-affiliated channel (Bitcoin Club SGH, 2014). The limitations are non-trivial: counts of participants, full programmes, and organiser lists are not consistently preserved in public university repositories, and some claims (including specific inter-university cooperation roles) may require reliance on archived materials and correspondence. Accordingly, this case is used to confirm event occurrence, timing, and institutional anchoring, while avoiding over-precise claims about impact or adoption outcomes.

Digital Money & Blockchain Forum

Digital Money & Blockchain Forum (2014–2026) (DM&BF) represents a rare, long-running and institutionally anchored academic–industry forum focused on blockchain- and cryptoasset-related issues in Poland. Unlike many short-lived events, DM&BF constitutes a recurring coordination mechanism linking higher education, industry practitioners, regulators, and policy-oriented experts over more than a decade.

This longevity and continuity make it analytically suitable for tracing how blockchain-related discourse and expertise diffused into the Polish higher education ecosystem.

The series originated in the mid-2010s under the broader "digital money" framing and gradually evolved into a forum explicitly centred on blockchain and cryptoassets. Over time, DM&BF maintained a stable organisational core while adapting its thematic scope to successive stages of technological and regulatory development. Archival agendas and concept notes confirm continuity of the series across multiple editions from 2014 onwards, with hosting and organisational roles consistently linked to academic institutions and their expert networks.

Across its editions, DM&BF reflects three analytically distinct phases:

1. An exploratory phase focused on defining digital money and early cryptocurrencies, situated at the boundary between academic inquiry and emerging market practice.
2. An expansion phase in which blockchain became a central organising concept, accompanied by growing attention to enterprise use cases, governance, and institutional applications.
3. A maturity phase characterised by regulatory, compliance, and implementation-oriented discussions, including EU-level frameworks, market infrastructure, and operational constraints.

This evolution mirrors broader patterns observed in Polish higher education: early engagement through debate and expertise-building, followed by gradual institutionalisation and closer interaction with regulatory and professional contexts.

For the purposes of this study, DM&BF is not treated as evidence of direct technological adoption within universities, but as an interface institution. It served as a recurring platform for agenda-setting, knowledge exchange, and network formation, reducing coordination costs between academia and non-academic stakeholders. Such hybrid venues appear to have played a demonstrated role in shaping subsequent educational programmes, research agendas, and expert communities.

At the same time, the case has clear limitations. Conference agendas and announcements document thematic continuity and declared objectives but do not allow for systematic assessment of outcomes, such as curriculum change or technology transfer. Accordingly, DM&BF is used here as evidence of sustained institutional attention and coordination, not as a proxy for implementation success.

International Blockchain Olympiad (Poland)

The International Blockchain Olympiad (IBCOL, n.d.) constituted an early, structured mechanism for translating student-led blockchain interest into formalised project-based learning and early research socialisation in Poland. The 2020 Polish edition (IBCOL Poland, n.d.). was coordinated by student organisations affiliated with SGH Warsaw School of Economics, most notably the SGH Blockchain Society, then chaired by Krzysztof Bochenek, under the academic supervision of Dr Wojciech Kurowski. The national coordination process combined open student recruitment, structured whitepaper templates, expert-based project evaluation, and formal academic patronage, including the honorary patronage of the Rector of SGH. The author contributed to the organisational framework, outreach, and institutional liaison, including support for academic patronage and industry sponsorship, while the core operational role remained with SGH-based student and academic actors. This configuration illustrates how student-centred competitive formats functioned as an effective bridge between informal learning communities and formal academic validation, reinforcing educational spillovers later observed in structured blockchain curricula and research initiatives (Bitcoin Club SGH, 2014; Piech, 2026a; 2026b).

DoxyChain: Micro-Credentials and HEI Deployments

DoxyChain (Warsaw, Poland) provides a DLT-based infrastructure for issuing and verifying digital credentials, with micro-credentials as the dominant use case in higher education. The case is included because micro-credentials have become an EU-level policy priority and are directly linked to institutional trust infrastructures (verification, auditability, portability), making them analytically distinct from teaching- and event-centred initiatives mapped elsewhere in this study (European Commission, 2022).

The evidentiary base is deliberately conservative and distinguishes between (i) institution-confirmed public materials and (ii) stakeholder (vendor) disclosures. The vendor provided an authorised list of higher-education partners that consented to public naming, while noting that the overall partner list is incomplete due to confidentiality constraints. According to this disclosure, the publicly nameable HEI deployments include: Jagiellonian University, Kozminski University, Warsaw University of Life Sciences, Poznan University of Technology (including the EUNICE European University consortium), Medical University of Lodz, Medical University of Lublin, Koszalin University of Technology, and the University of Gdańsk (M. Stopierzyński, personal communication, January 13, 2026).

The description is based on publicly available case materials provided by the vendor and treated as stakeholder evidence (DoxyChain, n.d.), complemented by an independent press account of the company's scaling and positioning in the micro-credential segment (MyCompanyPolska, 2025).

For a subset of the disclosed list, the existence of micro-credential initiatives can be corroborated through independently citable institutional webpages and/or publicly shareable materials describing micro-credentials and their verification workflow (e.g., Medical University of Lodz, n.d.). In addition, DoxyChain maintains publicly accessible case descriptions and blog materials that can be cited as stakeholder evidence, but these materials are treated as

non-independent and are used only within explicitly stated limits (DoxyChain, n.d.).

In the stakeholder analysis, DLT is presented not as an optional add-on but as a core component of the trust model: issued credentials are anchored in an immutable register enabling third-party verification. Because the vendor did not provide pilot/production dates and because independent auditing of "active status" is not available for all named institutions, the case is used here to demonstrate an HEI-facing implementation pathway (credential verification infrastructure), not to quantify diffusion or to construct a precise implementation timeline (DoxyChain, n.d.; M. Stopierzyński, January 13, 2026, personal communication).

Three constraints are material: (i) the disclosed HEI list is incomplete by design (NDA-bound), (ii) implementation dating is missing, preventing robust temporal placement across institutions, and (iii) vendor materials may be selectively curated; therefore, institution-confirmed public pages are prioritised where available, and all non-corroborated elements are explicitly treated as stakeholder evidence rather than independent confirmation (DoxyChain, n.d.).

SGH Postgraduate Blockchain Programme and the Publication Pipeline (Helion)

The postgraduate blockchain programme at the Warsaw School of Economics (SGH), currently offered under the official title "Studia Podyplomowe Blockchain: Biznes, Prawo, Technologia" ["Postgraduate Studies in Blockchain: Business, Law, Technology"], is included as a case because it represents a fully institutionalised educational pathway linking recurring postgraduate teaching with structured knowledge production. The programme is listed as a blended-format postgraduate course delivered by SGH, with academic leadership attributed to Dr Grzegorz Sobiecki (SGH, n.d. b).

The programme has been delivered in annual cohorts for several years. While earlier editions had operated under different titles, it is treated here as a single institutional trajectory anchored in SGH governance and regular delivery (Piech, 2026a; SGH, n.d. b).

In a published interview, Sobiecki reports that SGH currently delivers three distinct elective courses related to the field (digital money/cryptoassets; blockchain; cryptoasset regulation) and that the postgraduate blockchain programme has been delivered for approximately seven years. These statements are used as corroborative qualitative evidence and are triangulated with institutional listings where available (Piech, 2026a).

A distinctive feature of this case is its linkage to a large, multi-author publication project: the *Kompendium Blockchain* [*Blockchain Compendium*] book series published by Helion. According to the editor's statement and publicly available information, the first volume of the series has been published as the first part of a planned trilogy, with a substantial number of contributors drawn from among alumni of the SGH postgraduate programme, alongside contributors affiliated with other institutions, including Lazarski University (Piech, 2026a; Piech et al., 2025). This configuration illustrates a knowledge-production pipeline in which postgraduate education feeds directly into collective expert publications, reinforcing network effects beyond the host university.

For the purposes of this study, the SGH postgraduate programme exemplifies an institutionalisation channel in which early, seminar-based engagement evolves into a durable educational format, and subsequently into collaborative publishing activity. This mechanism differs both from vendor-mediated infrastructure deployment and from grant-funded applied R&D, highlighting the role of higher education institutions as long-term coordinators of expert communities rather than mere training providers.

The available evidence supports claims about programme continuity, leadership, and its linkage to collective publication, but does not permit quantitative evaluation of learning outcomes or career effects among graduates. Accordingly, the case is used to document institutional continuity and network formation, not to assess educational effectiveness.

iVoting: An R&D Consortium Model Linking Business and Academia

The iVoting project is included as a case because it represents a distinct institutional pathway for blockchain-related capability-building in Polish higher education: a publicly funded R&D consortium in which academic partners contribute specialised knowledge within an industry-led implementation effort. In the mapping logic of this paper, the project is coded not as "education" or "conference activity" but as an implementation-oriented research and development initiative that generated auditable artefacts (project documentation and published outputs) and engaged university-affiliated researchers in an applied setting (Gawlas & Piech, 2025; Smart Cables, 2020–2021).

Institutionally, the consortium is reported to have combined an industry lead (Smart Cables) with academic participation, including researchers affiliated with the Czestochowa University of Technology and contributors associated with Polish Academy of Sciences (PAN), alongside the author's involvement from Lazarski University. The analytical relevance lies in the governance structure typical for public R&D programmes: defined roles, reporting obligations, and deliverables that are, at least in principle, verifiable ex post through programme documentation rather than relying on promotional narratives (Smart Cables, 2020–2021).

From the perspective of higher-education initiatives, iVoting illustrates how blockchain-related competence may be institutionalised via grant-funded applied work that couples academic expertise with procurement- and deployment-oriented constraints. This mechanism differs from seminar-based diffusion and from credential infrastructures supplied by vendors: it creates a bounded, audited environment

for experimentation but also introduces dependency on programme rules, procurement feasibility, and the durability of post-grant maintenance. Therefore, the case is used to evidence a research–implementation channel, not to claim broad educational diffusion or national adoption of the underlying voting solution (Gawlas & Piech, 2025; Smart Cables, 2020–2021).

The publicly available record is typically stronger on consortium composition and declared objectives than on comparative performance evaluation. Accordingly, claims about effectiveness should be limited to what can be supported by grant reporting and published outputs; any additional details based on the author's direct involvement should be explicitly labelled as such and separated from independently verifiable sources (Gawlas & Piech, 2025; Smart Cables, 2020–2021).

Discussion

The findings indicate that blockchain-related engagement of Polish higher education institutions has followed a selective and path-dependent trajectory rather than a uniform diffusion pattern. Three channels dominate: (i) institutionally anchored education formats (postgraduate studies and recurring courses), (ii) hybrid academic–industry coordination venues, and (iii) narrowly scoped implementation projects, most visibly in digital credentials and micro-credentials.

Interview-based corroboration strengthens several documentary observations. First, the SGH case confirms that blockchain-related teaching in Poland predates formal regulatory and policy frameworks and evolved incrementally through elective courses before crystallising into a dedicated postgraduate programme. Second, the coupling between postgraduate education and multi-author publications (the *Compendium Blockchain* series) illustrates a knowledge-production mechanism in which higher education functions not only as a training provider but also as a coordination hub for expert communities.

At the same time, the evidence highlights clear constraints. Implementation-oriented initiatives remain rare and vendor-mediated, with limited publicly accessible documentation. This restricts the ability to assess scalability, user adoption, and long-term institutional impact. The dominance of recurring events and education-oriented formats suggests that Polish HEIs have prioritised capability-building and agenda-setting over large-scale operational deployment.

Methodologically, the study confirms a trade-off between coverage and verifiability. By focusing on sustained, institutionally anchored initiatives with auditable traces, the inventory underrepresents short-lived or weakly documented activities. However, this conservative approach improves reproducibility and reduces the risk of overstating diffusion.

The regulatory environment for higher education in Poland does not currently impose specific barriers to blockchain-based educational initiatives, including micro-credentials or digital certification systems. Universities retain substantial autonomy in designing continuing education programmes, postgraduate studies, and pilot implementations of digital credentials. At the same time, quality assurance mechanisms are primarily anchored in institutional accreditation and programme approval procedures rather than in technology-specific regulations. Consequently, blockchain-related initiatives in higher education have emerged mainly through bottom-up experimentation within existing academic structures rather than through dedicated national policy frameworks. This institutional flexibility partly explains the diversity of initiatives documented in this study.

While Polish higher-education institutions enjoy substantial autonomy in launching new educational formats, including postgraduate programmes and pilot digital credential systems, the broader diffusion of blockchain-based academic credentials remains limited by the absence of a coordinated national policy initiative. In recent years, public declarations regarding the introduction of digital diplomas have appeared in the policy discourse, yet they have not translated into a systematic nationwide implementation framework. As a result, most initiatives documented in this study emerged through bottom-up experimentation led by individual universities, research groups, or industry partnerships rather than through central policy programmes. This institutional configuration slows the large-scale adoption of DLT in higher education. At the same time, innovation theory shows that the university-driven innovation can function as an early experimentation layer for technologies that may later diffuse into wider public-sector applications.

Future research should therefore move beyond descriptive mapping towards structured comparative analysis, combining archival reconstruction with targeted interviews at the level of university management and administrative units responsible for digital credentials and curricula design. Such work would allow for systematic assessment of adoption barriers, organisational incentives, and the long-term role of blockchain-based infrastructures in higher education.

Conclusions

This article provides a verifiable mapping of sustained blockchain-related initiatives in Polish higher education. The evidence indicates a shift from early community-driven and seminar-style activity toward recurring hybrid venues and implementation-oriented institutional projects—especially in digital credentials and professional education. The resulting landscape is narrower than the full universe of "blockchain mentions" in academia, but it is more robust: each included initiative has a durable organisational form and an auditable public trace.

The key recommendation is both methodological and managerial: initiatives that matter for institutional learning and national capability are those that

recur, formalise responsibility, and publish stable artefacts (agendas, syllabi, repositories, university communications). Strengthening Poland's position in this domain is therefore less about adding more one-off events and more about consolidating durable programmes, interoperable credential infrastructures, and academic–industry channels that generate publicly verifiable outputs.

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The appendix is available in the online version of the journal.

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