Europe Accelerated: Navigating Education and Business Through Exponential Change

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"The Year is 2060: What's Obsolete?“ Speculate!

“It's the year 2060. Imagine looking back from that vantage point. In this future shaped by nanotechnology, quantum computing, AI, and synthetic biology, many of today's systems will seem archaic.

Think not just in terms of what evolved, but what disappeared - what structures, skills, tools, or roles are now completely obsolete?”

1. One educational model or credential that will be obsolete by 2060.
2. One teaching skill a teacher will need.
3. One workplace role or skill that will no longer exist.
4. One business model or economic assumption that will collapse.

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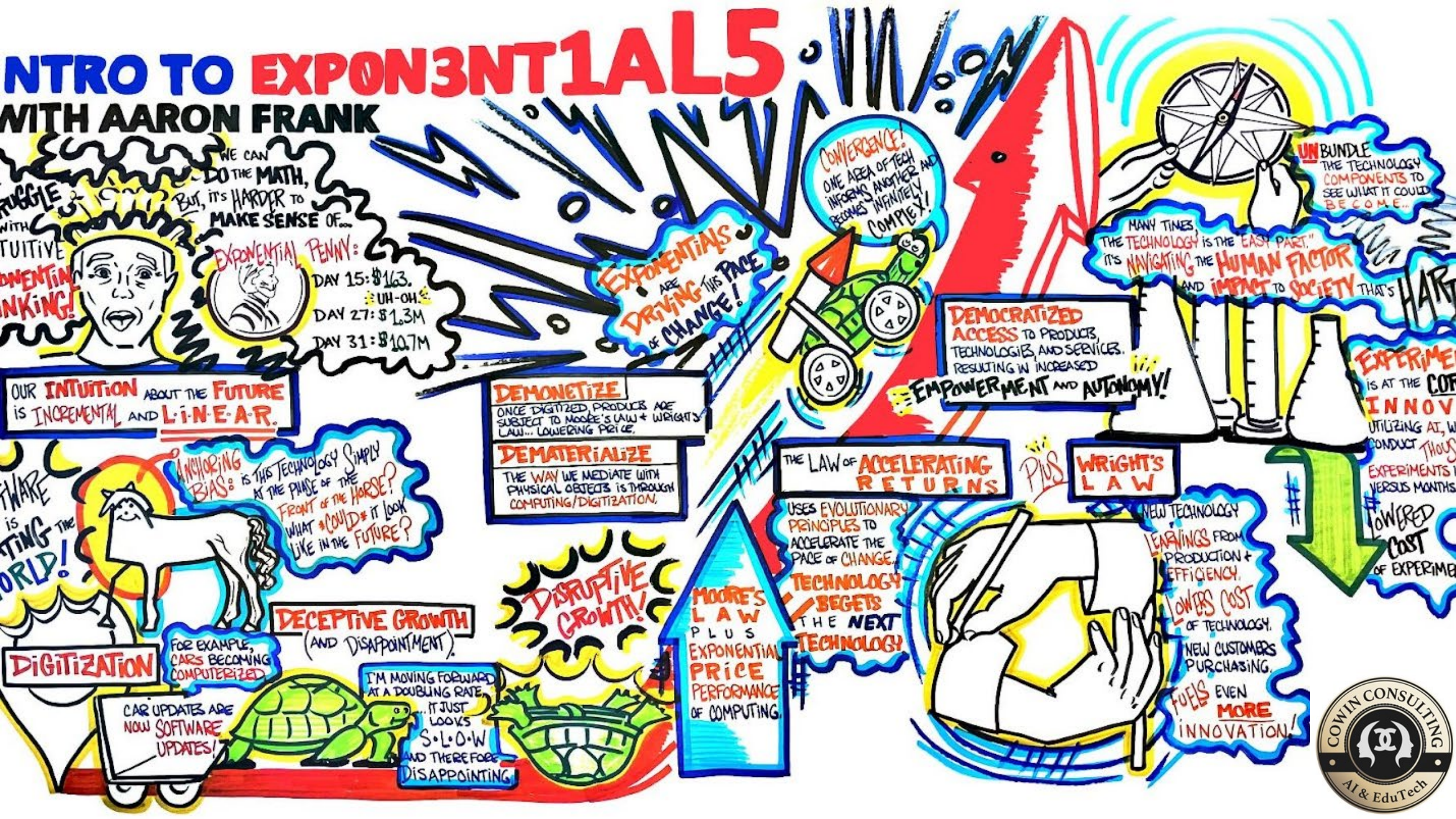
NTRO TO EXPON3NT1AL5
WITH AARON FRANK
WE CAN DO THE MATH, BUT, IT'S HARDER TO MAKE SENSE OF...
EXPONENTIAL PENNY:
DAY 15: $163.
UH-OH.
DAY 27: $1.3M
DAY 31: $10.7M
OUR INTUITION ABOUT THE FUTURE IS INCREMENTAL AND L·I·N·E·A·R.
EXPONENTIALS ARE DRIVING THIS PACE OF CHANGE!
CONVERGENCE! ONE AREA OF TECH INFORMS ANOTHER AND BECOMES INFINITELY COMPLEX!
UNBUNDLE THE TECHNOLOGY COMPONENTS TO SEE WHAT IT COULD BECOME...
MANY TIMES, THE TECHNOLOGY IS THE EASY PART." IT'S NAVIGATING THE HUMAN FACTOR AND IMPACT TO SOCIETY THAT'S
DEMONETIZE
ONCE DIGITIZED, PRODUCTS ARE SUBJECT TO MOORE'S LAW + WRIGHT'S LAW... LOWERING PRICE.
DEMATERIALIZE
THE WAY WE MEDIATE WITH PHYSICAL OBJECTS IS THROUGH COMPUTING/DIGITIZATION.
DEMOCRATIZED ACCESS TO PRODUCTS, TECHNOLOGIES, AND SERVICES. RESULTING IN INCREASED EMPOWERMENT AND AUTONOMY!
ANCHORING BIAS: IS THIS TECHNOLOGY SIMPLY AT THE PHASE OF THE FRONT OF THE HORSE? WHAT *COULD* IT LOOK LIKE IN THE FUTURE?
THE LAW OF ACCELERATING RETURNS
USES EVOLUTIONARY PRINCIPLES TO ACCELERATE THE PACE OF CHANGE... TECHNOLOGY BEGETS THE NEXT TECHNOLOGY!
PLUS
WRIGHT'S LAW
NEW TECHNOLOGY LEARNINGS FROM PRODUCTION + EFFICIENCY. LOWERS COST OF TECHNOLOGY. NEW CUSTOMERS PURCHASING. FUELS EVEN MORE INNOVATION!
DISRUPTIVE GROWTH!
MOORE'S LAW PLUS EXPONENTIAL PRICE PERFORMANCE OF COMPUTING.
DECEPTIVE GROWTH (AND DISAPPOINTMENT).
I'M MOVING FORWARD AT A DOUBLING RATE, ... IT JUST LOOKS S·L·O·W AND THEREFORE DISAPPOINTING
DIGITIZATION
FOR EXAMPLE, CARS BECOMING COMPUTERIZED
CAR UPDATES ARE NOW SOFTWARE UPDATES!
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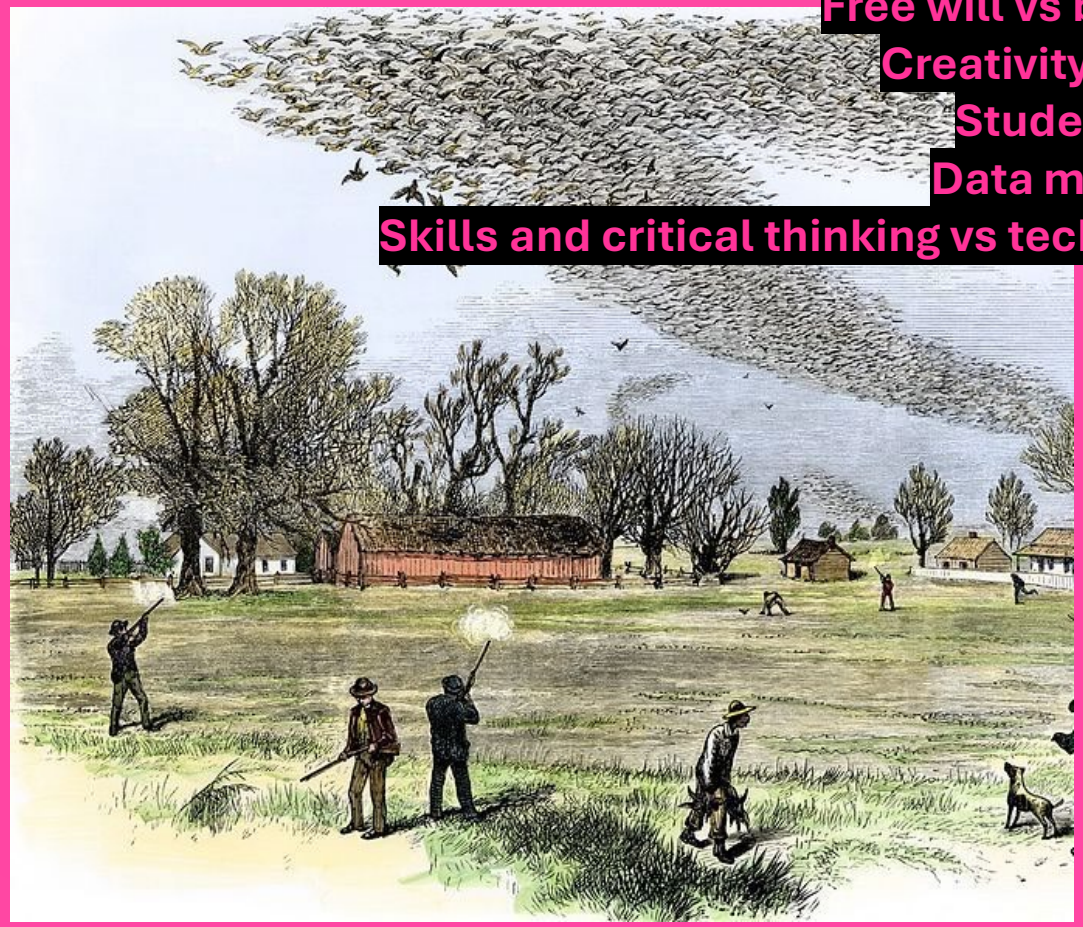
The New & Shiny vs the Passenger Pigeon: Preparing for 2060
Learning from the passenger pigeon, which was once the most abundant bird in North America.



Free will vs back box algorithms?
Creativity vs Predictability?
Students vs Clients?
Data mining in school?
Skills and critical thinking vs techno-colonialism of Western preferences?

2060 - the first generation of “The Artificials"

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The Rise of Artificial General Intelligence (AGI)

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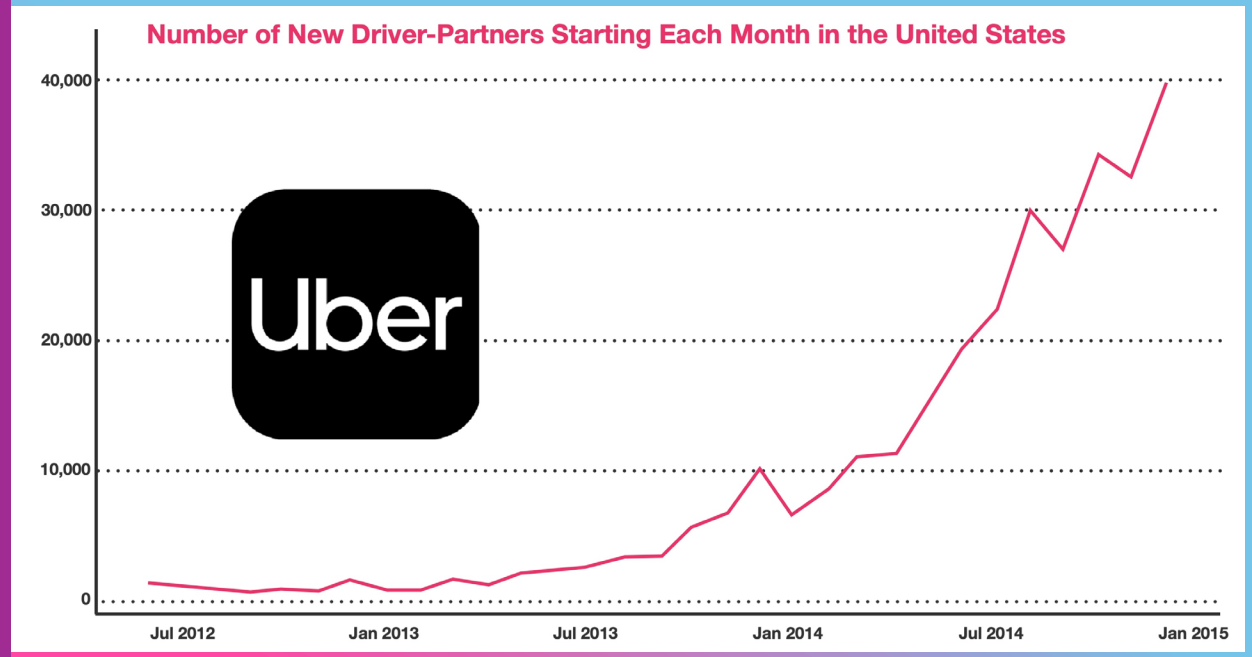
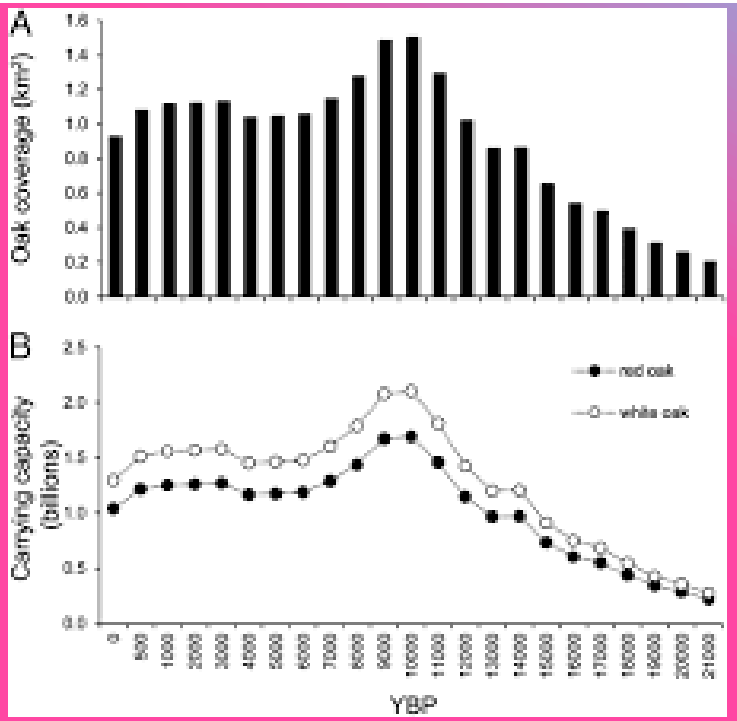
Exponential Thinking

Linear vs. Exponential Growth:
Linear growth: 30 steps = 30 units of progress
Exponential growth: 30 steps = 1 billion units of progress

Most institutional planning follows linear models, while technology develops exponentially. Assessment strategies must anticipate exponential change rather than incremental improvements.





Passenger Pidgeon population graph

The Global Education Tribune

"Shaping Tomorrow's Minds Today"

March 15, 2060 • Vol. 127, No. 74 — Neural Edition • 2.7 Credits

BREAKING: Finland replaces all physical schools with AI-led immersive learning pods

Finland Eliminates Traditional Schools in Revolutionary Education Overhaul

Nordic nation becomes first to fully embrace AI-led immersive learning pods, sparking global debate over the future of human-centered education

RELATED STORIES

- Teachers' unions across Europe mobilize in response
- Early test results show 340% improvement in learning retention
- Child psychologists raise concerns about social development

Germany's Ministry of Skills mandates blockchain-certified microcredentials for all vocational licenses

BERLIN — New legislation requires digital verification of all professional qualifications by 2061.

EU passes Embodied Cognition Bill: Minimum haptic input hours now required for algorithmic curriculum validation

BRUSSELS — Controversial law aims to preserve human sensory experience in digital learning environments.

UNESCO declares basic coding a human right, sparks sovereignty debate

PARIS — Neural enhancement nations resist universal programming education mandates.

UK's Oxford-Cambridge merger creates 'MetaVersity' serving 50 million students

LONDON — Historic institutions unite in virtual space to combat enrollment decline.

Quantum teaching agents now required for university accreditation under European AI Act 2060

GENEVA — New standards mandate quantum-enhanced artificial intelligence in higher education.

MIT's holographic professors now outnumber human faculty 3:1

CAMBRIDGE — Tenure algorithm controversy erupts as digital academics gain permanent status.

China's AI tutors achieve 99.7% learning optimization rate

BEIJING — Human teachers file mass unemployment claims as artificial intelligence dominates education sector.

Virtual Reality Academy scandal: Students can't distinguish between simulated and real history

SILICON VALLEY — Investigation launched into immersive historical recreations.

Global Learning Weather

Optimal neural conditions
Cognitive enhancement: 94%
Memory retention: High

Denmark mandates 'digital detox diplomas' after Generation Alpha attention span crisis

COPENHAGEN — Emergency legislation addresses widespread focus disorders among young adults.

France requires mandatory 'human interaction' courses

PARIS — Gen Beta struggles with face-to-face communication, prompting educational intervention.

Sweden's 'Failure Appreciation' curriculum reduces youth anxiety by 67%

STOCKHOLM — Revolutionary approach to setbacks adopted by 40 nations worldwide.

Corporate kindergartens emerge as companies recruit talent from age 4

WORLDWIDE — Ethics committee launches investigation into early childhood commercialization.

First robot awarded honorary doctorate degree

TOKYO — Consciousness recognition debate intensifies as AI achieves academic milestone.

QUICK BYTES

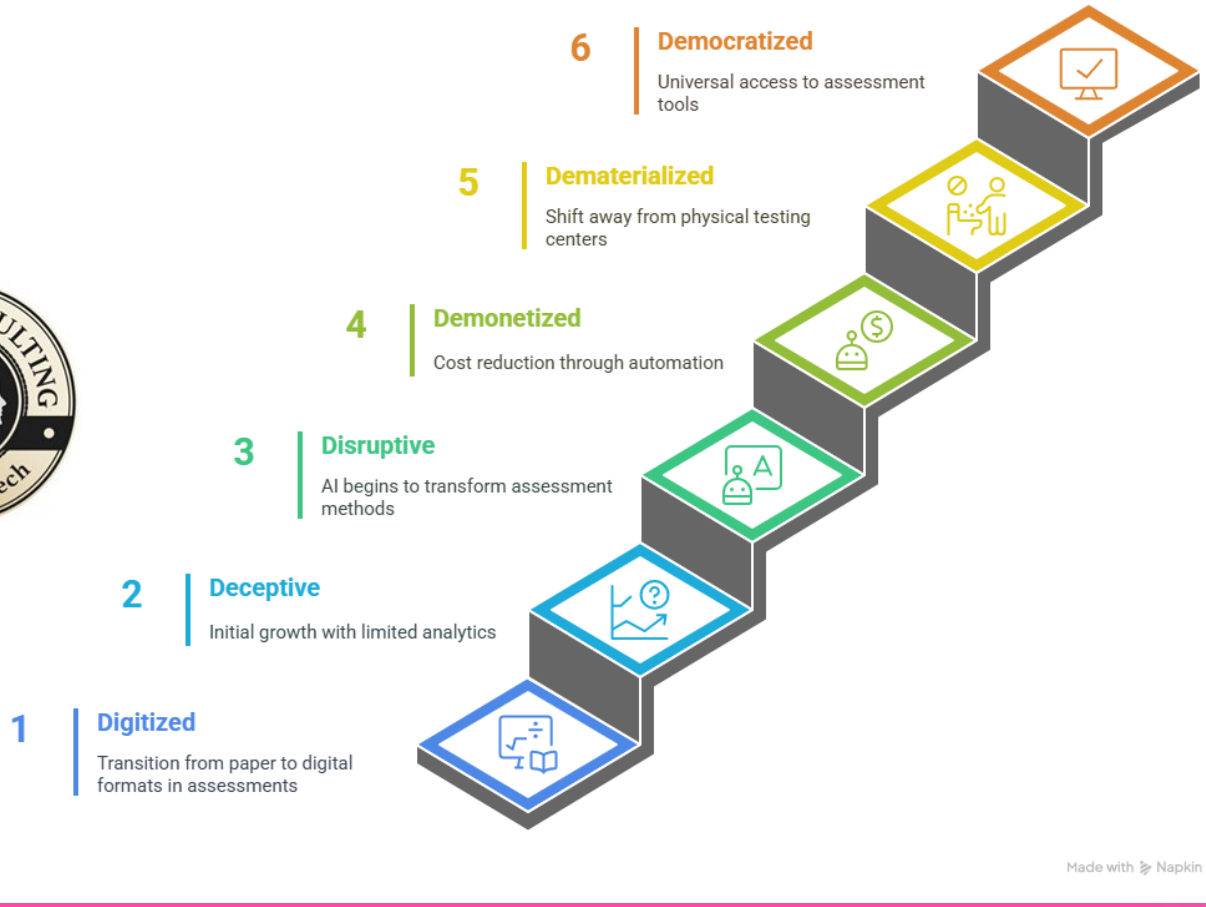
India's rural drone schools reach final unconnected villages, ending global education gap

South Korea bans AI homework completion after 'intellectual atrophy' epidemic

Nigeria leads Afri initiative with inter students

The 6D Model for Technology Evolution
Digitized - Technology converts to digital format
Deceptive - Early growth appears linear
Disruptive - Begins displacing traditional systems
Demonetized - Becomes increasingly affordable
Dematerialized - Physical components disappear
Democratized - Becomes widely accessible

6D Model Applied to Assessment
Digitized: Paper assessments → Digital submissions
Deceptive: LMS systems with limited analytics
Disruptive: AI-generated assessments and feedback
Demonetized: Automated grading reducing costs
Dematerialized: Physical testing centers disappearing
Democratized: Universal access to sophisticated assessment tools



THE 6D FRAMEWORK WITH TECHNOLOGY ENABLERS IN EUROPEAN EDUCATION

DESIGNED BY
Jasmin (Bey) Cowin, Ed.D.

		Competency-Based	Personalized Learning	Distributed Learning	Strategic Alignment & Challenges
Digitization	Digital Transformation	Blockchain-verified skill credentials enable secure, real-time validation of competencies	Adaptive AI tutoring systems with natural language processing support individualized learning	DAOs facilitate peer-to-peer learning networks with transparent verification	◆ Integration with Digital Education Action Plan priorities ◆ Faculty resistance to adopting new verification systems ◆ Need for infrastructure supporting blockchain and AI implementation
Deception	The Illusion of Gradual Change	AI-powered competency assessment transforms traditional evaluation methods	Biometric learning optimization monitors cognitive load in real-time	AR creates immersive collaborative experiences beyond traditional classrooms	◆ Infrastructure limitations affect technology adoption rates ◆ Less than 40% of educators feel prepared for digital technologies ◆ Need for comprehensive training in new assessment methods
Disruption	Market Structure Change	Virtual reality simulations enable hands-on skill demonstration	Quantum-enhanced optimization personalizes curriculum pathways	Global talent matching through AI-powered networking	◆ Integration with European Skills Agenda ◆ Need for standardized assessment frameworks ◆ Technical infrastructure requirements
Dematerialization	Physical-to-Digital Transformation	VR/AR simulations replace physical assessment environments	AI systems create digital learning resources	Immersive collaborative platforms enable virtual interaction	◆ Data security concerns in digital environments ◆ Need for robust privacy protocols ◆ Infrastructure requirements for VR/AR implementation
Demonetization	Cost Structure Collapse	Blockchain reduces verification costs	AI optimization reduces resource waste	DAO structures minimize administrative overhead	◆ Initial investment requirements for technology infrastructure ◆ Need for sustainable funding models ◆ Cost-benefit analysis of technology implementation
Democratization	Universal Access Creation	Universal credential recognition through blockchain	Adaptive systems accommodate diverse learning needs	Global access through decentralized networks	◆ Digital divide affects 43% of European students ◆ Need for equitable technology access ◆ Infrastructure variations across regions

Six Ds of Exponentials
was created by Peter Diamandis

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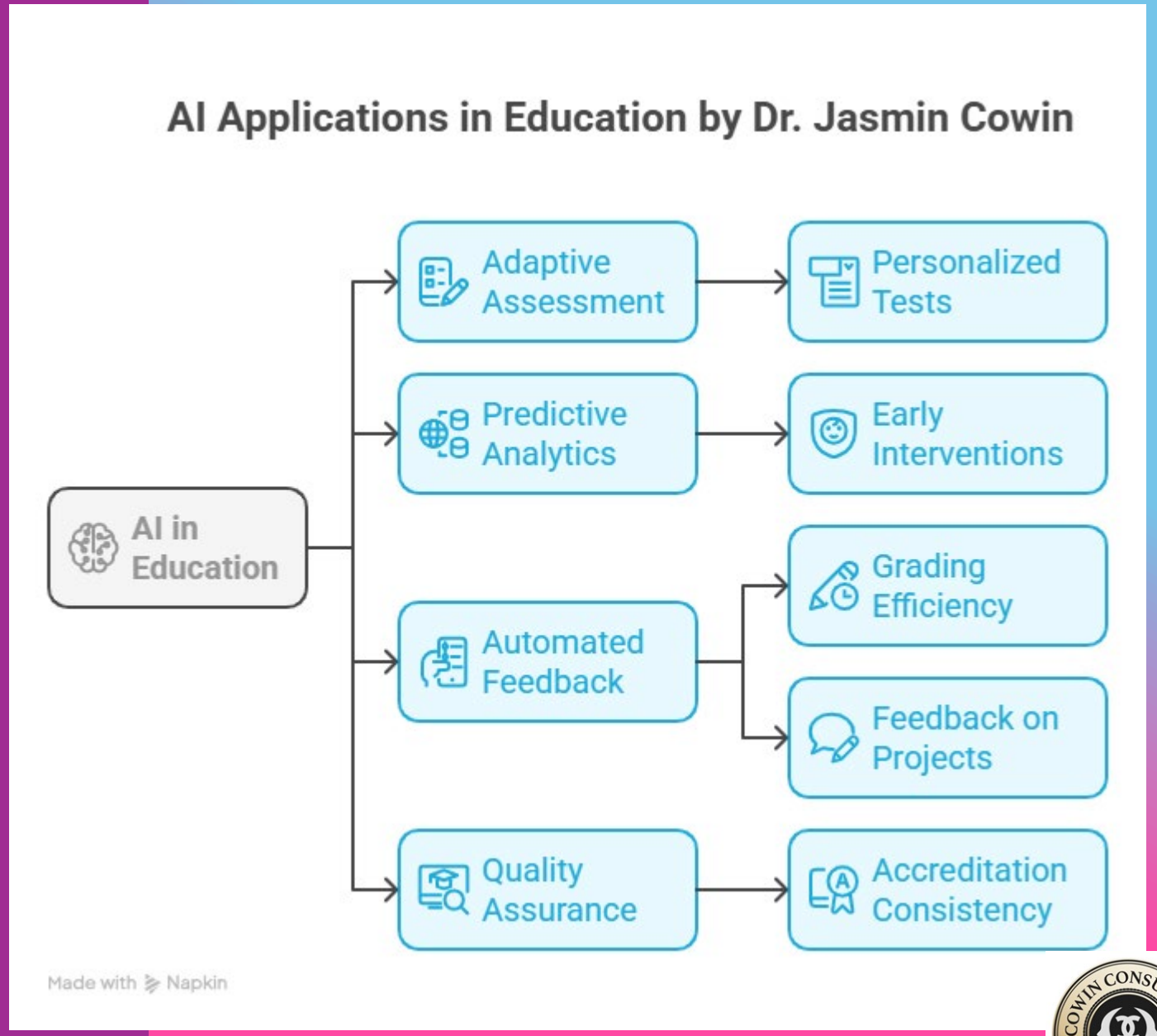
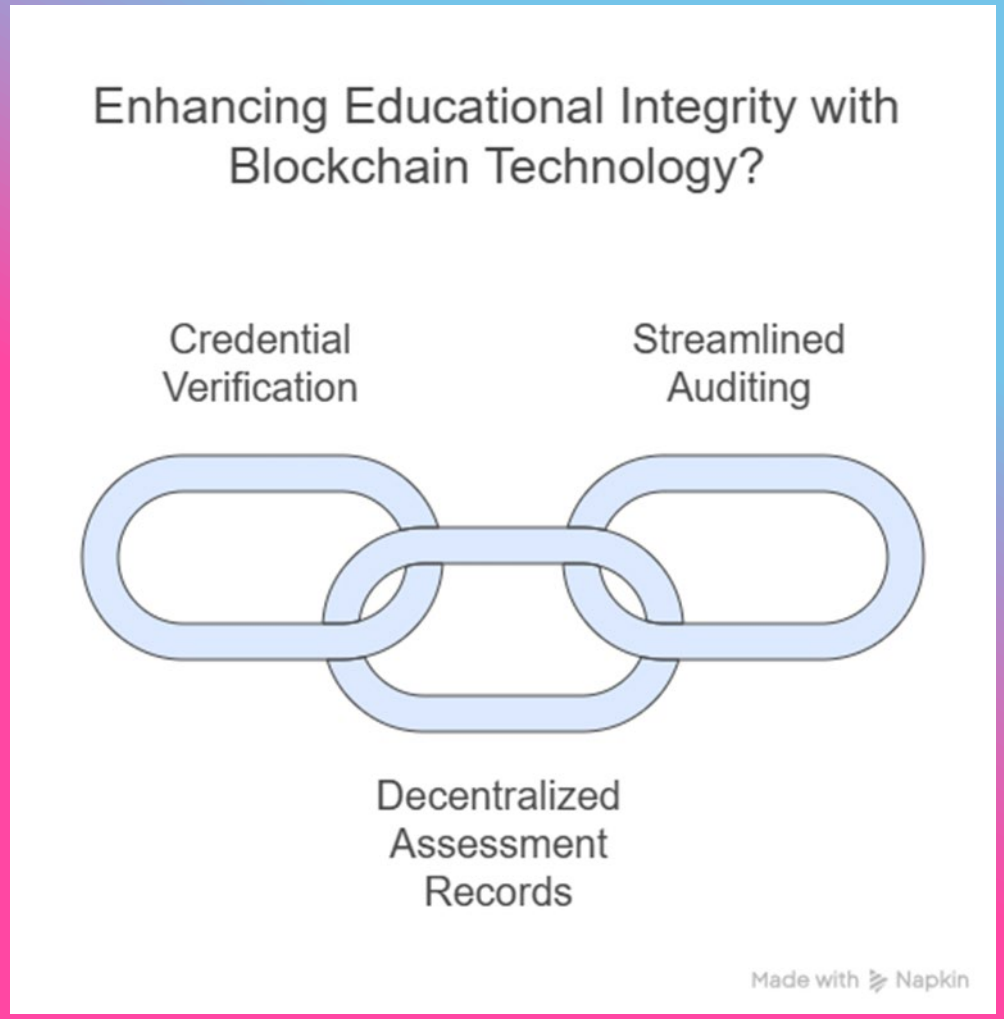
Artificial Intelligence (AI)

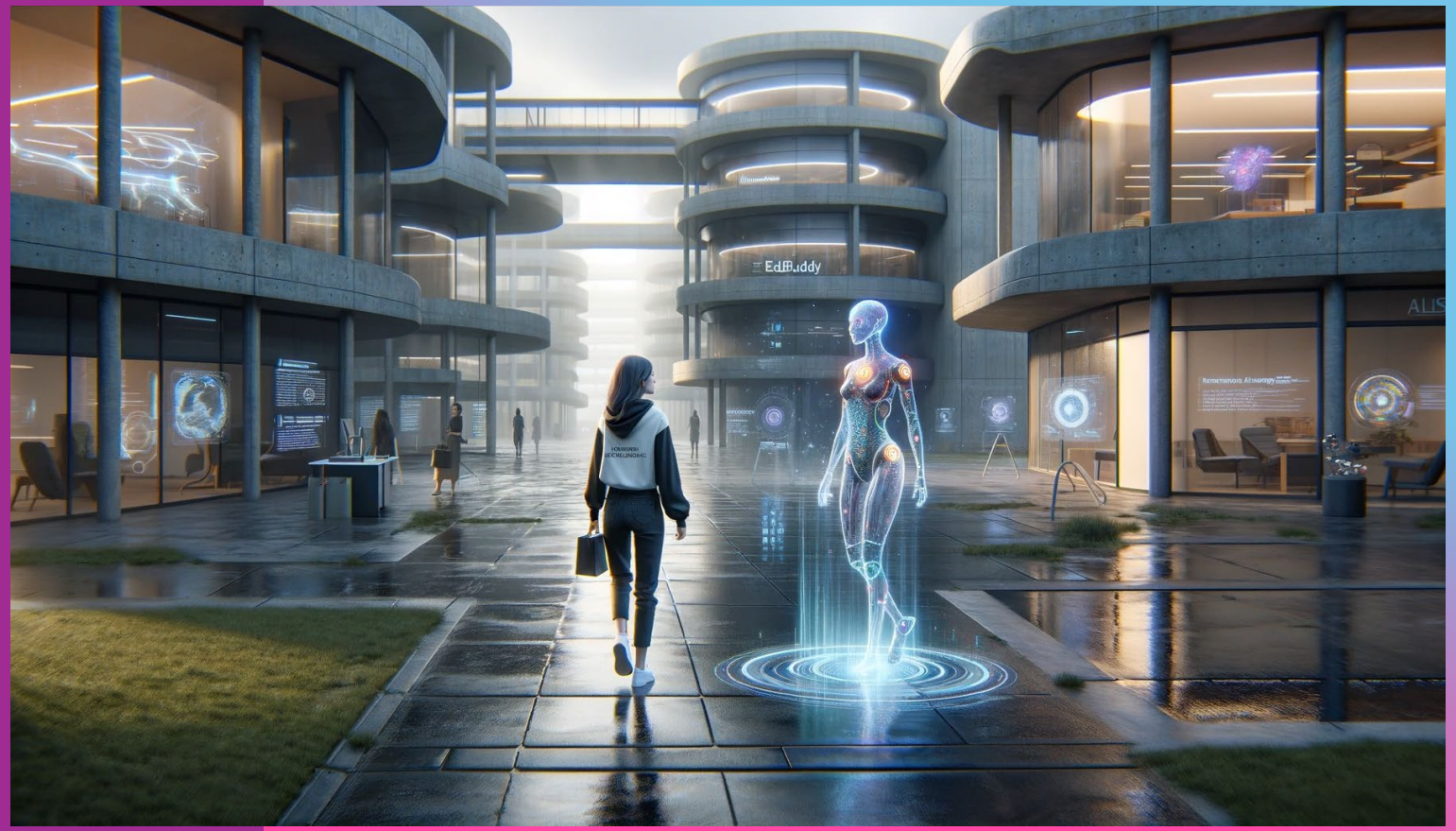


Blockchain

Key Takeaway: Quantum computing and blockchain stand to revolutionize assessment, from deep data analytics to secure credentialing. As with the passenger pigeon's abrupt end, these emergent technologies can catalyze seismic shifts in how institutions measure and validate learning outcomes.



Extended Reality (XR)



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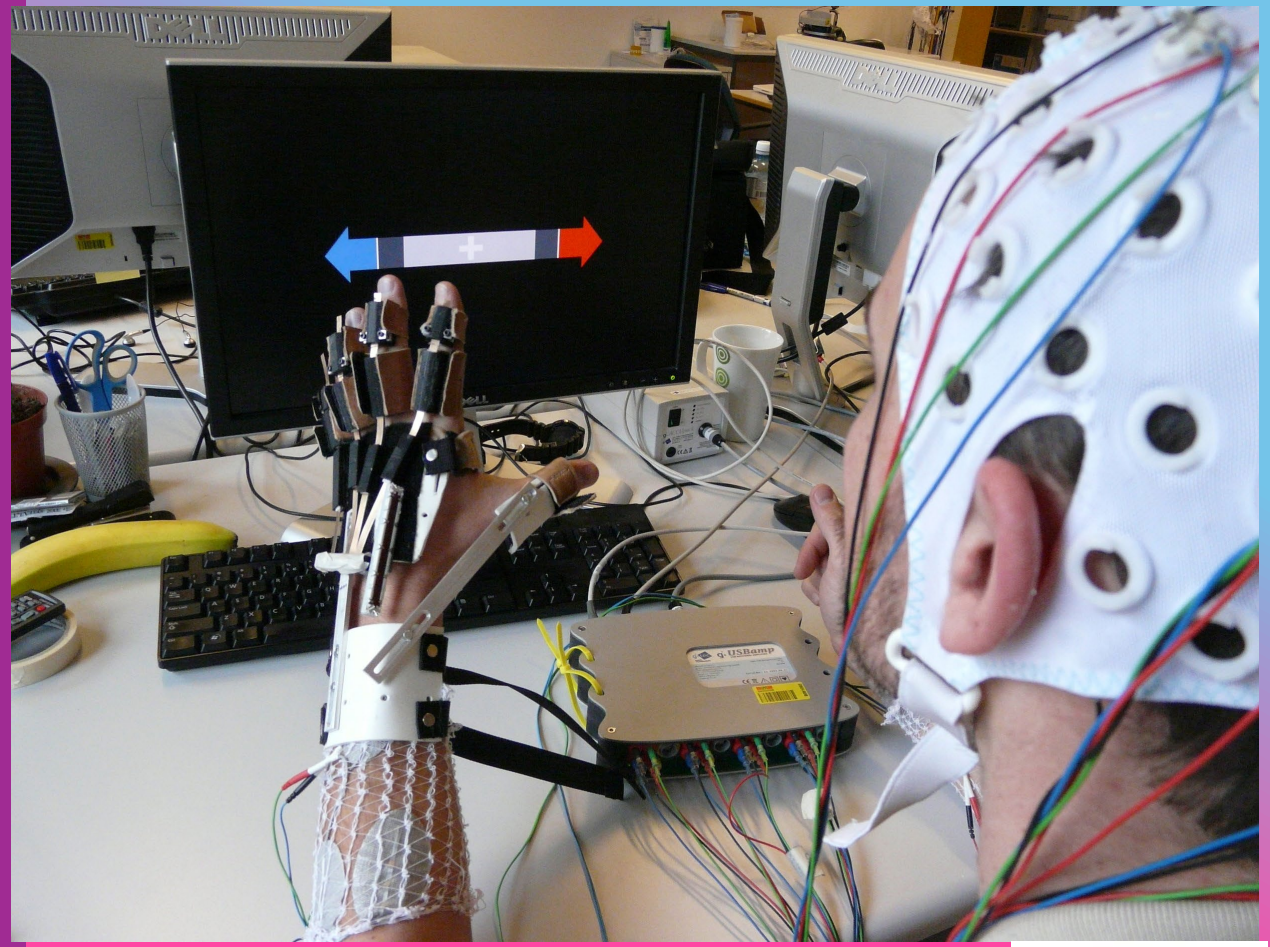
Extended reality (XR) might one day replace traditional on-site visits for accreditation or institutional review.

Brain-Computer Interfaces (BCIs)



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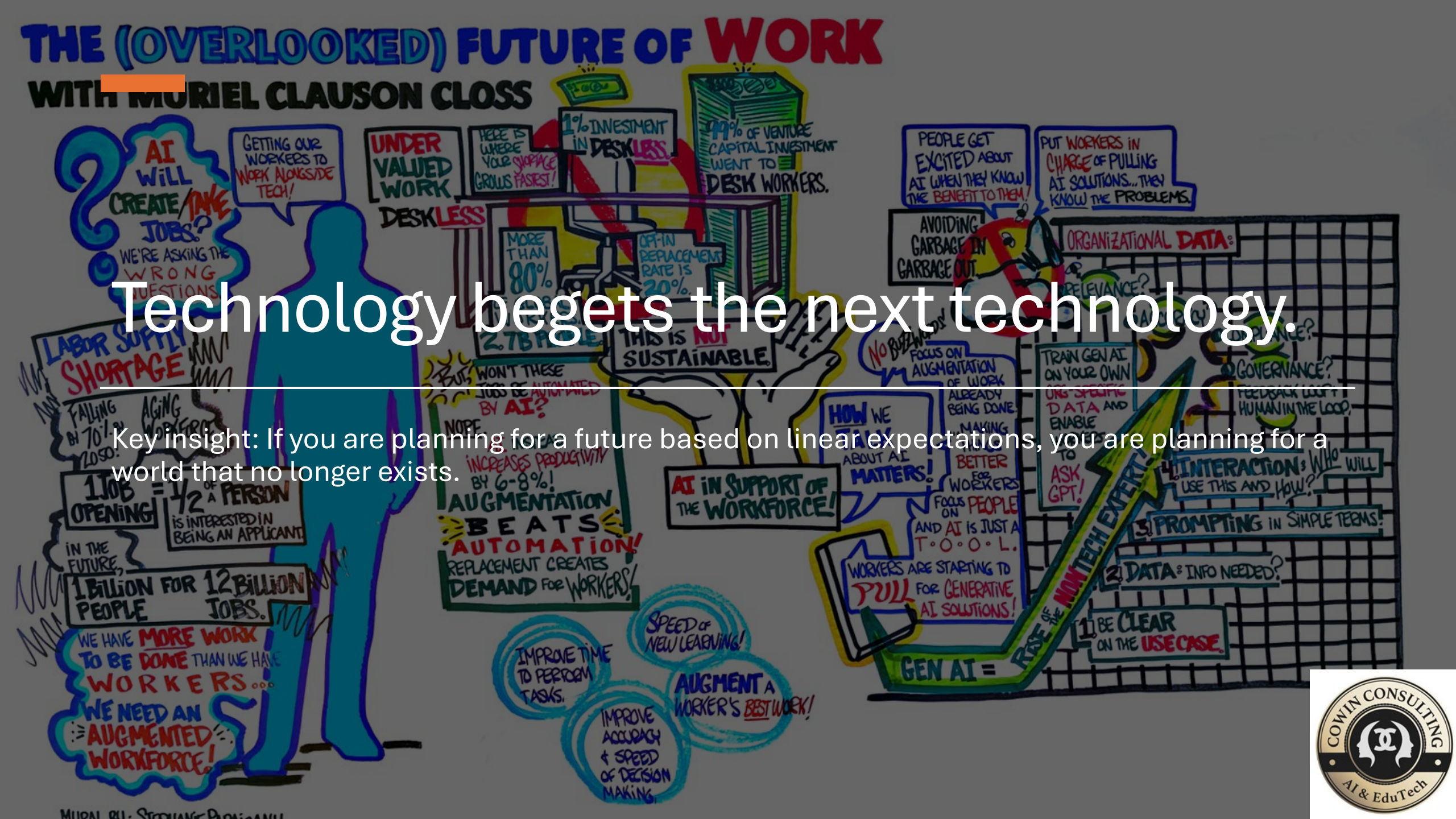
Neuromorphic Computing Brain-Computer Interfaces:

Enabling direct communication between the brain and external devices.



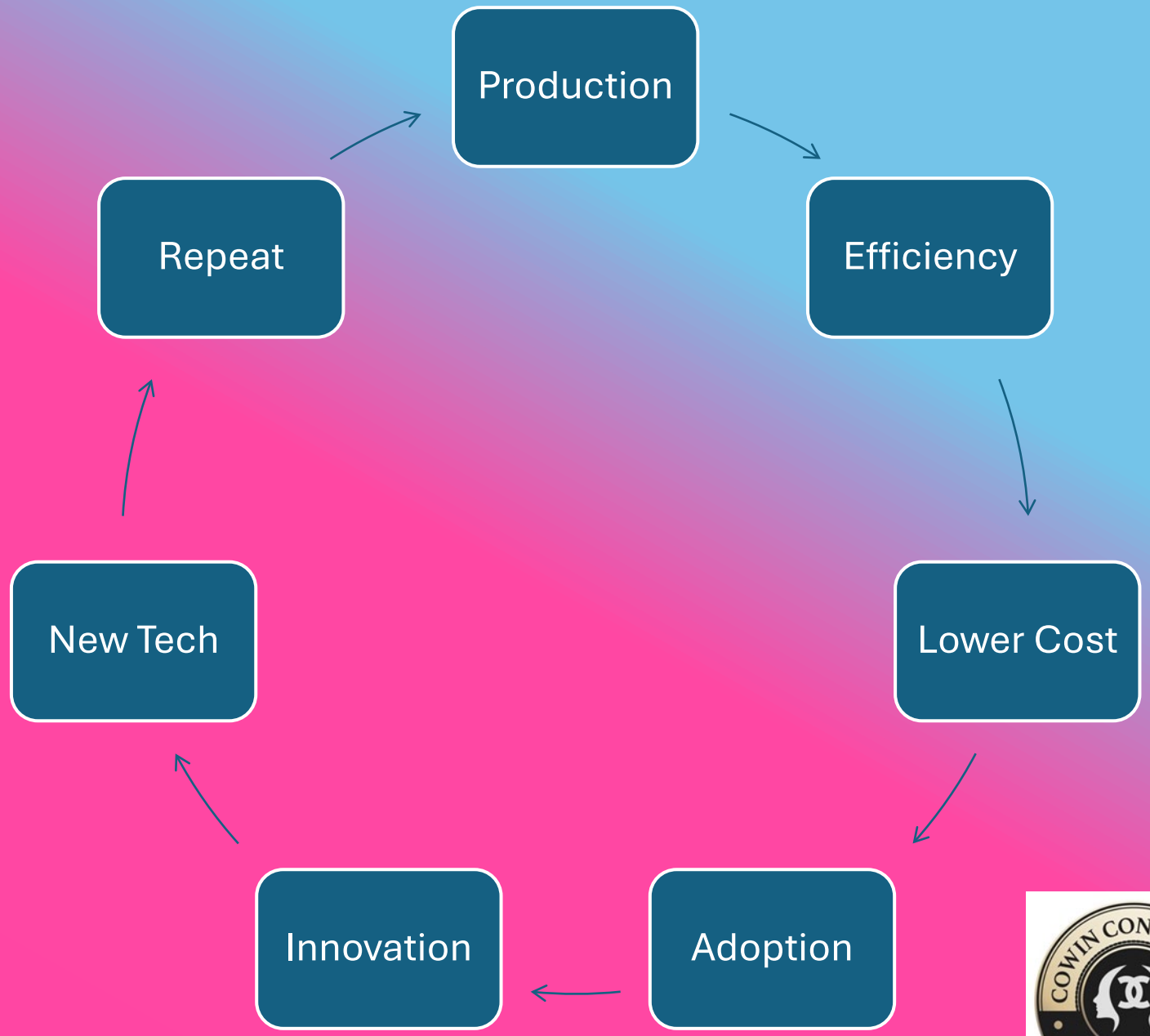
Technology begets the next technology.

Key insight: If you are planning for a future based on linear expectations, you are planning for a world that no longer exists.

Wright's Law: The Mathematics of Accelerated Learning

For every cumulative doubling of units produced, costs will fall by a constant percentage.

Feedback loop:



Key Technologies Driving Change

Jasmin's Speculation is rampant – so what would be the skills teachers need to teach for this?

Transformative domain /Quantum contribution if fault-tolerant hardware exists by ≈ 2040 /Policy/industrial prerequisite

Transformative domain	Quantum contribution if fault-tolerant hardware exists by ≈ 2040	Policy/industrial prerequisites
Decarbonisation & materials	Atom-level simulation of catalysts, batteries and fusion-relevant materials ≫ faster than classical HPC	Open datasets; HPC–QC integration; workforce skilled in quantum chemistry
Health & life sciences	Precise protein-folding energetics; accelerated lead-molecule discovery in silico	Regulatory pathways for QC-generated drug data; quantum-ready bio-informatics stacks
Secure communications	Post-quantum cryptography mandatory; legacy RSA breaks plausible by 2035 → full migration by 2050	EU-wide PQC rollout; export controls on crypto-relevant QC hardware
Optimisation & logistics	Global supply-chain and traffic optimisation with quantum speed-ups, contingent on algorithmic advances	Industry–academia consortia to develop domain-specific quantum heuristics
Fundamental science	Simulation of high-energy physics, strongly correlated systems	Sustainable funding for large-scale shared QC facilities

More crazy Jasmin Speculation is

So what would be the skills teachers need to teach for this?

Transformative domainEducational contribution by 2060 (if domain reaches maturity by ≈ 2040)

Transformative domain	Educational contribution by 2060 (if domain reaches maturity by ≈ 2040)	Policy / infrastructure prerequisites
General-purpose AI and autonomous agents	Continuous, language-agnostic tutoring at individual and cohort scale; near-instant feedback on formative and summative tasks; data-driven curriculum co-design that iterates in real time.	EU-level ethical guidelines for pedagogical AI, mandatory model transparency, and systematic teacher upskilling in prompt-engineering and bias mitigation.
Immersive spatial computing (XR + haptics)	Embodied virtual laboratories for STEM, archaeology, and language immersion; haptic rehearsal of vocational skills; synchronous multi-campus classrooms where mixed-reality artefacts are manipulable.	Universal low-latency broadband, open XR interoperability standards, privacy rules for biometric and gaze data, and funding lines for teacher training and content localisation.
Quantum-accelerated simulation and cryptography	Curriculum access to ab-initio molecular simulations and optimisation problems beyond classical reach; quantum-secure examination and admissions systems; doctoral training that integrates quantum algorithms with HPC workflows.	Persistent public investment in EuroHPC quantum nodes, classroom-level cloud access, and Europe-wide quantum-literacy programmes for educators and students.
Neurotechnology and brain–computer interfaces (BCIs)	Adaptive instruction that adjusts to attention and cognitive load in real time; inclusive communication channels for learners with severe motor or speech impairments.	Legally enforceable neurorights, medical-device quality standards for educational BCIs, explicit opt-in consent frameworks, and independent ethics oversight.
LEO satellite connectivity and edge clouds	Equitable, low-latency cloud-classroom access for rural and remote regions; resilient connectivity during natural disasters and conflict-related school closures.	Coordination of spectrum policy, orbital-debris mitigation, targeted subsidies for underserved schools, and edge-compute caching to minimise backhaul costs.
Verifiable learning credentials and EU Digital Identity Wallets	Portable micro-credentials and degree certificates that can be shared securely across borders; automated credit transfer and "learning wallets" that release funds when competencies are verified.	Harmonised credential schemas on EBSI, full rollout of the EU Digital Identity Regulation, GDPR-aligned data-retention rules, and institutional adoption incentives.

Exponential Europe 2060:
Reimagining Education and Work Through the 6Ds

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DIGITIZATION
By 2060, what does this look like when fully realized:

Vision | Collapse

Learner or worker's day

2025 Action

DECEPTION
By 2060, what does this look like when fully realized?

Vision | Collapse | Dilemma

Learner or worker's day

2025 Action

DEMATERIALIZATION
By 2060, what does this look like when fully realized:

Vision | Dilemma

Learner or worker's day

2025 Action

DEMONETIZATION
By 2060, what does this look like when fully realized:

Vision | Collapse | Dilemma

Learner or worker's day

2025 Action

DEMOCRATIZATION
By 2060, what does this look like when fully realized?

Vision | Collapse | Dilemma

Learner or worker's day

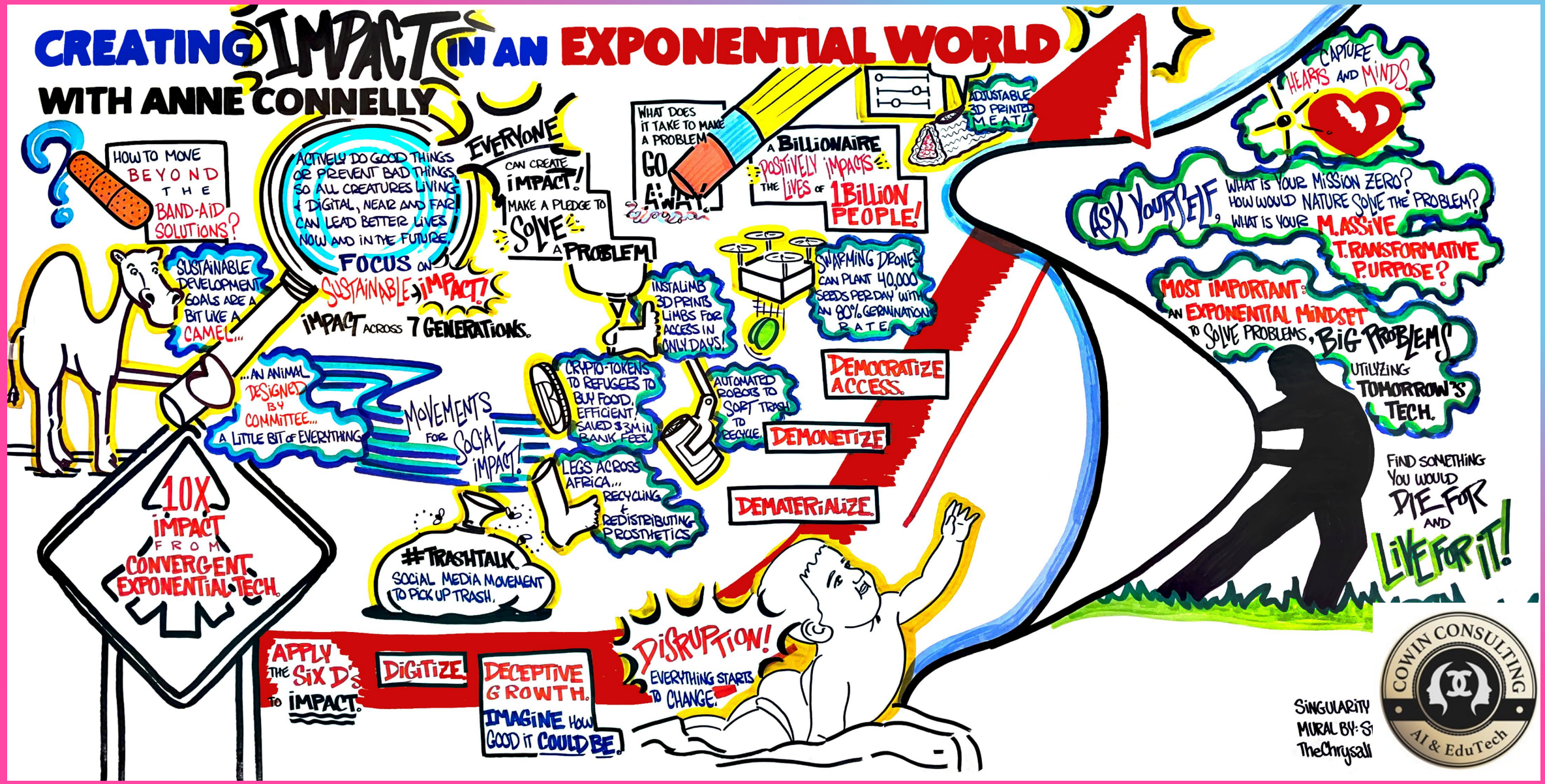
2025 Action

Activity

Each group answers five prompts using **sticky notes:**

- **Vision**:
  What does this transformation look like when fully realized by 2060?
- **Collapse**:
  What institutional or societal structure disappears as a result?
- **Dilemma**:
  What ethical, political, or regulatory dilemma arises?
- **Learner or Worker's Day**:
  Describe one person's ordinary day in this future world.
- **2025 Action**:
  What policy, pilot, or shift must we start now to prepare?

What did we Learn – Gallery Walk



Final Thoughts

From Abundance to Oblivion

Just as the pigeon’s colossal numbers gave a false sense of security, so too might institutions believe that their longstanding traditions and reputation insulate them from obsolescence. When new technologies (e.g., AI, extended reality, or blockchain) begin to education, programs that dismiss these changes - or use them without careful stewardship - could find themselves unprepared for the systemic shiftsthat follow.

Complacency Amid Rapid Change

People once perceived the passenger pigeon as an inexhaustible resource. Similarly, educational systems might presume that incremental changes (like digitized portfolios) are sufficient. However, in an age of exponential, disruptive developments, relying on past success or gradual adaptation can become detrimental. The 6D Model teaches us that technology evolves through deceptive, disruptive, and democratized phases with compounding impacts. If accreditation bodies and institutions do not proactively adapt, they risk becoming as outdated as a reliance on the passenger pigeon as a food source.

By 2060? What do YOU think?

Want to read one of my articles:

Cowin, J. (2025, June 19). *The Veldt 2.0: Your smart home wants your children*. Stankevicius. https://stankevicius.co/artificial-intelligence/the-veldt-2-0-your-smart-home-wants-your-children/

Cowin, J. (2025, May 15). *Foundations or facades? Duolingo, AI, and the Antaeus paradox in EdTech*. Stankevicius. https://stankevicius.co/artificial-intelligence/foundations-or-facades-duolingo-ai-and-the-antaeus-paradox-in-edtech/

Cowin, J. (2024, December 7). *Agentic AI nexus: When machines decide*. Horasis. https://horasis.org/agentic-ai-nexus-when-machines-decide/

CU in Manhattan in September 2025?

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