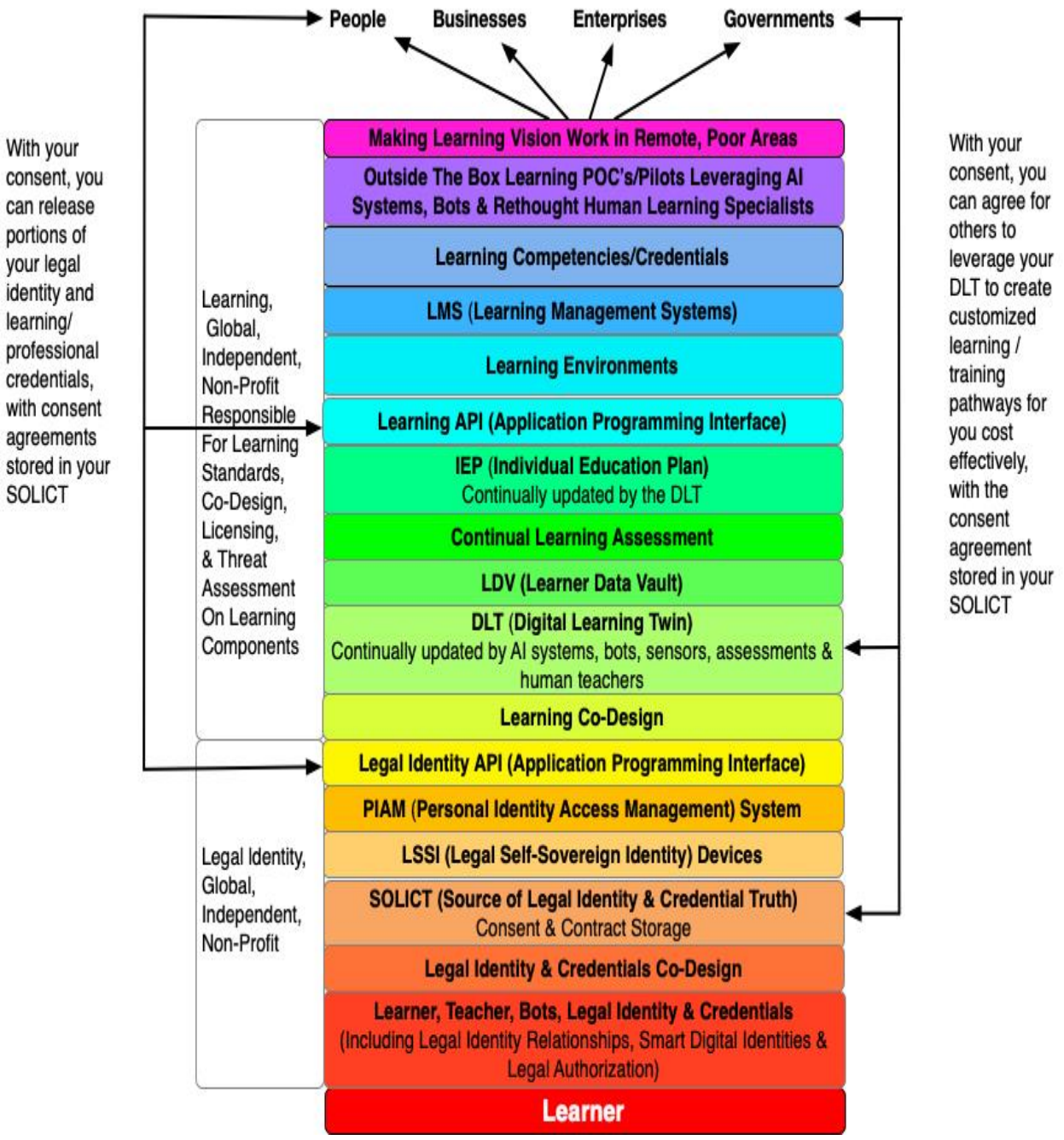
Learning Vision Flyover



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Executive Summary

The existing education system we have today on the planet evolved out of the industrial era, when factories needed people who could read, write, and do arithmetic. Schools evolved, leveraging a teacher at the front, with blackboard, then books, and today computers. Universities evolved from being small places doing mostly research, to today's world of polytechnicals, teaching and research institutions granting millions of people, each year, a wide array of degrees.

Yet, this isn't going to work in the future. Quoting Alberta Einstein, "**We can't solve problems by using the same kind of thinking we used when we created them.**" So, what are the problems we're creating?

- The education systems doesn't work well for people who have different learning styles or learning challenges like ADHD, ASD, etc. (about 5% of the population)
- Rapid tech change caused by this curve https://hvl.net/pdf/PatScannellHockeyStickShapedCurve.pdf means the learning/training needs are also rapidly changing, requiring faster updates, skill sets, etc.
- Leaners can now learn from home leveraging AI physical/virtual bots which changes the equation of learning starting in schools
- The internet allows learners to simultaneously learn together around the planet, with physical teachers who might be on the other side of the planet
- The emergence of AI/AR/VR environments trashes today's ideas of "online learning" where students stare at a screen, instead creating whole new learning environments
- The old idea of going to a K-12 school is changing to a lifelong learner, in and out of the classroom

Skim these two articles:

- "**Sir Ken Robinson - You Nailed It!**"
- "**Vision: Learning Journey of Two Young Kids in a Remote Village**"

They lay out a learning vision starting when the learner is a toddler. It leverages physical bots to do an in-depth learning assessment, feeding the data into a DLT (digital learning twin), which in turn creates an IEP (individualized education plan), that's continuously updated by a learning assistant bot in the home, with data being stored in the learner's LDV (learning data vault). The learner may or may not require specialized physical/digital learning specialists to assist them prior to entering school.

When the learner enters school, they give their permission for their DLT, IEP and LDV information to be integrated with the schools LMS (learning management system). If the learner participates in AI/AR/VR environments, it's guided by consent authorization agreements. These specify things like use of their name/gender, what data can and can't be used, how it's stored, archived, deleted, etc. Agreements are stored in the learner's SOLICT (source of legal identity & credential truth).

Any learning credentials the learner gains are digitally signed by the education authority and written to the learner's SOLICT, which in turn updates their LSSI (legal self-sovereign identity). Thus, the learner is in control of where, when, and how to release this data.

With their consent, the learner can also agree to release their DLT/IEP/LDV data to employers, post-secondary et al. This reduces time, costs, and efforts to quickly help train and educate learners, giving them exactly what they need to learn. Note, all consents given by the learner are written to their SOLICT.

The learning vision embraces that no learner should be left behind on the planet, regardless of their learning abilities, poverty, sex, etc. To achieve all of this requires out of the box thinking. Thus, paper is a high-level overview of the components required to create the new learning vision. It leverages co-design and out of the box thinking re learning in remote environments.

This document high-level review of each component, with a brief description, followed by diagrams if applicable, links to detailed cost centre information and examples is applicable.

Achieving a new vision doesn't happen overnight. The architecture plus cost centres is designed, allowing for many parallel steps to be taken. For each one, the cost centre document lays out a strategy of crawl, walk and run. It calls out for many different POC's (proof of concepts), to be done. This leads to small, tightly controlled pilots.

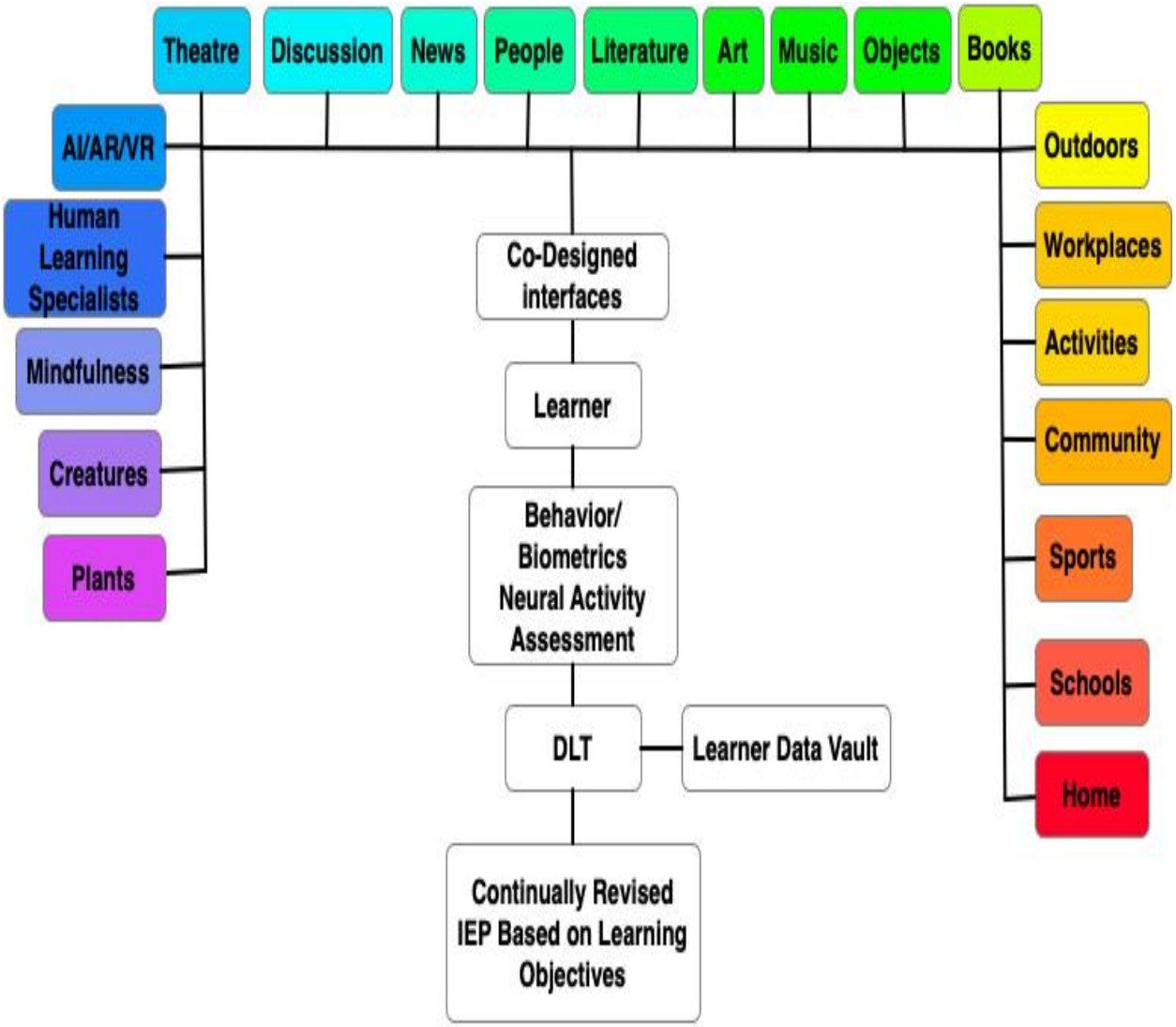
On each team are co-design experts, lessons learnt experts, learning what didn't work, what worked, and adjusting the teams strategies, to rapidly scale.

Finally, who pays for this mid to long term? The architecture calls out for a global, independent non-profit, to manage new learning standards plus do 24x7x365 threat assessments against the new learning framework. Each school district on the planet would pay a very small annual fee per student, to a maximum yearly amount, to license this from the non-profit. It provides recurring revenue to run the non-profit.

All of this is out of the box thinking for out of the box times, addressing the statement of Albert Einstein. It requires out of the box innovative funders to get this vision going into small crawling steps.

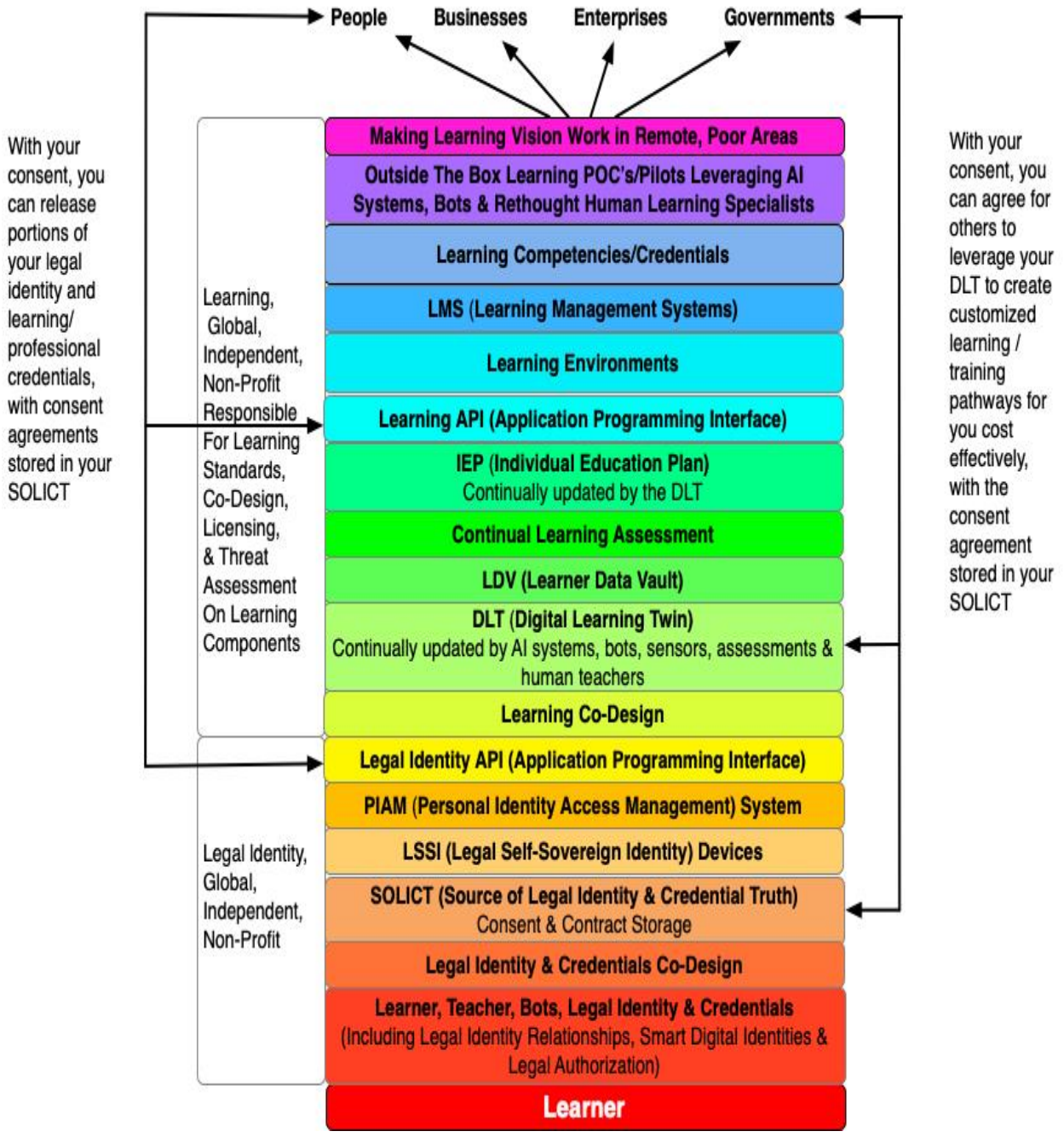
Introduction:

This document is a high-level flyover of the major components for creating a new learning vision. It's written for senior decision makers to get a grasp of the components. The learning vision, at the 100,000-foot level can be show as below:



All the above leveraging a rethought legal identity framework for humans and AI systems/bots

To make the above magic work, requires a rethought human and AI system/bot legal identity framework. Thus, here's an architectural/cost centre diagram laying it all out:



That's what this document explores. Within component section, it contains references to specific cost centre details, which the decision maker will likely want to direct their analysts to.

Here's how the document works:

- Component title
- Short description
- If applicable, a diagram showing a more detailed cost centre
- Reference links to more detailed cost centre information
- If applicable, examples using diagrams

Learners, Teachers, Bots, Legal Identity, Relationships/Hives, Legal Authorization Rights and Credentials Subcomponent Cost Centre:

Description:

The vision requires a rethought legal identity framework for learners, teachers, bots and their legal identity relationships/hives, legal authorization rights and credentials. All of this architecture and costs are borne by the legal identity and credential architecture.

Readers might want to skim these two high level docs:

- "**Rethinking Human Legal Identity**"
- "**Creating AI Systems/Bots Legal Identity Framework**"

Learners, Teachers, Bots, Legal Identity, Relationships/Hives, Legal Authorization Rights and Credentials Subcomponent Cost Centre Links:

- Read pages 64-258 in "**Cost Centres – Rethinking Legal Identity & Learning Vision**"

SOLICT (Source of Legal Identity & Credential Truth)

Description:

The "Source of Legal Identity Truth" (SOLICT) is created when a person's born. It's their own personal database containing their legal identity information, plus their forensic biometrics, which they control. The authoritative government source, the CRVS (Civil Registration Vital Statistics), digitally signs this. As a person gains credentials through their life (e.g., vaccinations, education credentials, etc.) these too are written to the person's SOLICT, with the authority digitally signing these as well. The SOLICT contains legal identity relationships e.g., parent/child, legal guardian/child, etc.

The SOLICT in turn writes to a variety of "Legal Self-Sovereign Identity" (LSSI) devices. Now, each person is in control of their legal identity and credential data, using it where, when and how they please.

Reference Links:

- A high-level overview of SOLICT can be found on pages 31-32 of "**Rethinking Human Legal Identity**"
- Read pages 223-239 of "**Cost Centres – Rethinking Legal Identity & Learning Vision**"

LSSI (Legal Self-Sovereign Identity) Devices

Description:

There are five types of Legal Self-Sovereign Identity (LSSI) devices:

- Physical legal identity card
- Physical wristband biometrically tied to the person
- Digital legal identity application
- A chip inserted into the person
- Legal identity/credential information written to an entity's source code

While I'm not a fan of chips in people, it's a reality that must be addressed. Thus, there's a cost centre devoted to scientifically, security and ethically investigating it.

The biometrically tied wristband is an idea to enable very poor people without access to technology or, people like my mom who's rapidly losing her mental abilities, to be able to function in our modern world. It requires funding to prove it out.

All LSSI devices in the future might be lost or compromised. Thus, they can be revoked and reissued by a person's SOLICT.

Not all identity and credential information must be on a person's LSSI device. The choice is up to each person.

Accessing the LSSI information is via a proposed LSSI API. This will likely come under attack by criminal groups. Thus, the global, independent non-profit, as part of its mandate, establishes standards for the LSSI devices as well as continually looking for new attack vectors. When a attack vector is found, it's rated based on threats and people will likely be notified if the threat risk is high to very high

Finally, a person's PIAM (Personal Identity Access Management) system, will also work with a person's LSSI devices, via the LSSI API.

Reference Links:

- A high-level overview of LSSI device can be found on pages 33-34 of "**Rethinking Human Legal Identity**"
- Read pages 240-254 of "**Cost Centres – Rethinking Legal Identity & Learning Vision**"

PIAM – Personal Identity Access Management

Description:

In today's world, as people wear smart clothing, AI glasses and miniature cameras become common, simply walking down a street, a person will be rapidly identified. It creates what I call a "non-private world". To live privately in a non-private world requires new laws and regulations asking for our consent for our identity to be released. This in turn requires us granting our consents.

Now come with Jane Doe walking down a street, wearing AI/AR glasses lenses where she's both in the online and offline world simultaneously. She'll likely be bombarded by requests for her to share her identity. She's not going to want to have to manually do this. That's why I created the concept of a PIAM.

It leverages AI for Jane to then pre-determine who she wants to share her legal identity and credential information to. If you skim, "**An Identity Day in the Life of Jane Doe**" you'll see how Jane's PIAM allows her to mostly live privately except with those third parties she wants to share her information with.

The same applies to kids in schools. They'll increasingly be walking into the school, with their LSSI devices, PIAM, plus wearable smart clothing and AI/AR glasses, et al. They'll be able to not only identify students and teachers, but also to predict their emotions, determine if a person's lying, etc.

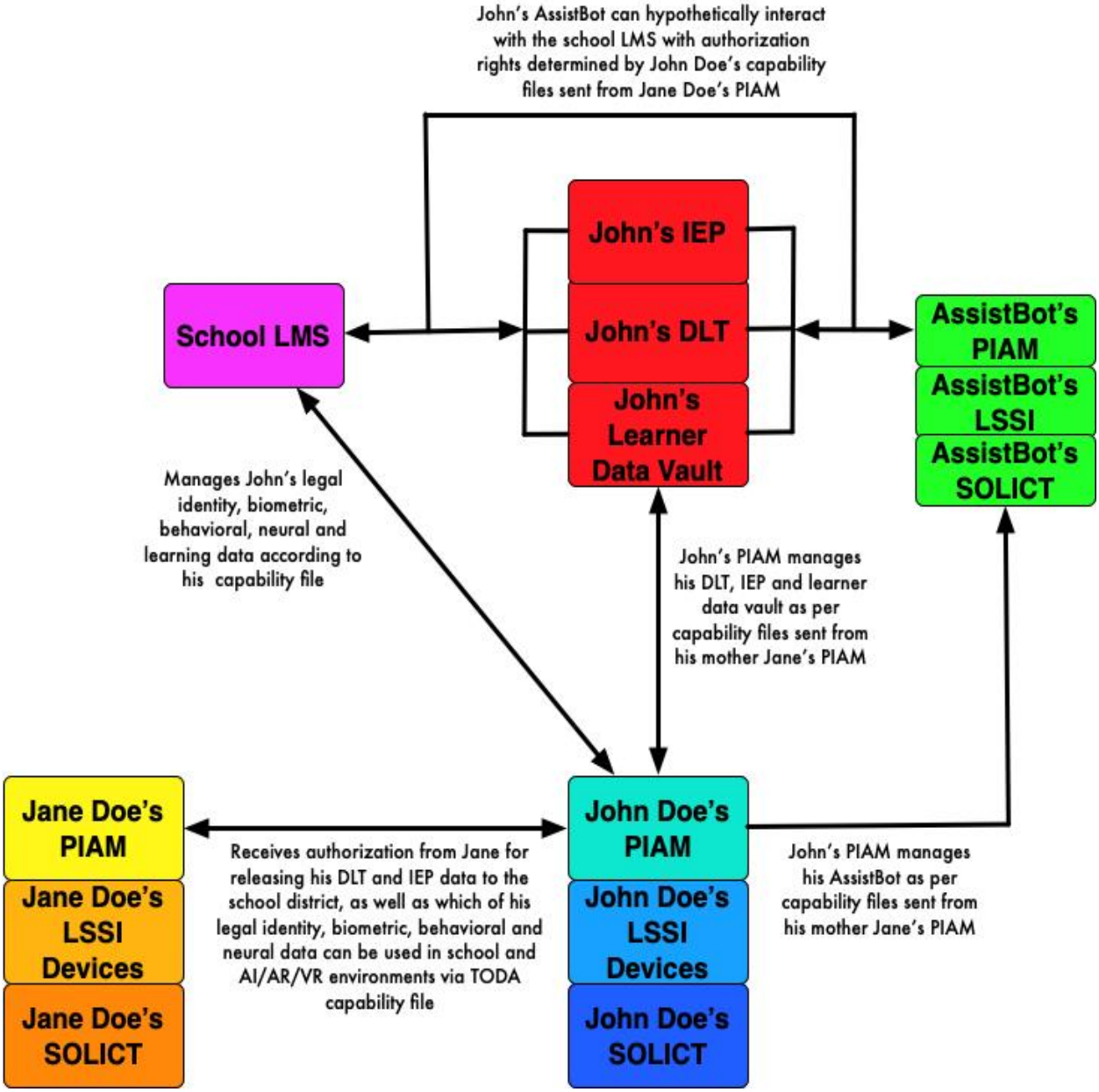
A person will use their PIAM to control their smart digital identities as well as any AI systems/bots they have a contractual relationship with. Thus, consider John Doe in a school with his learning assistant bot, AssistBot. John's PIAM will be able to control, via TODA capability authorization files, what the bot can and can't do. Jane Doe, John's parent, is the one who sets up these capability files for John, until he comes of legal age. The district in turn, interacts with John and AssistBot, via their LMS (learning management system), leveraging their capability files. Look at page 49, "**John Doe's in School**"

Yes, it's complex. That' why the PIAM cost centres start out with a series of small, rapid POC's and pilots to work our way through the many challenges in designing, implementing and maintain PIAMS.

Reference Links:

- A high-level overview of PIAM can be found on pages 35-37 of "**Rethinking Human Legal Identity**"
- Read pages 255-253 of "**Cost Centres – Rethinking Legal Identity & Learning Vision**"

Example – PIAM in Schools:



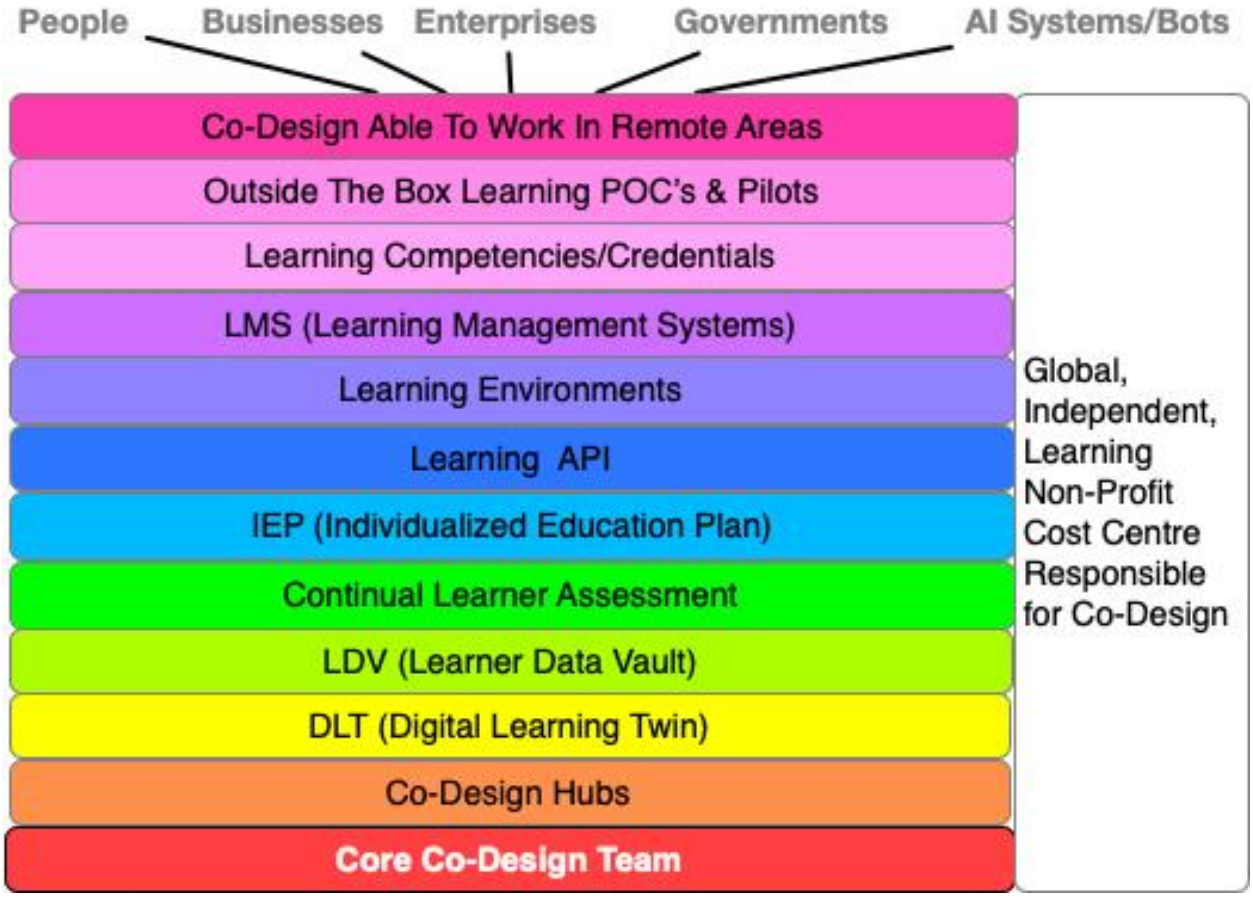
Learning Co-Design:

Description:

I recently read Marie Johnson's new excellent book on co-design titled "**Nadia – Politics, Bigotry, Artificial Intelligence**". **It taught me how a government should NOT deploy co-design.** It affected me so much, I redid the entire 500 plus page architecture, embedding co-design into almost all parts of the architecture.

Thus, throughout the legal identity, credential, notary and rethought learning architecture, co-design is an integral part of the design, implementation, and maintenance process.

Learning Co-Design Cost Centres Diagram:



Reference Links:

- I strongly suggest readers read "**Vision – Co-Design 'Nothing About Us Without Us'**" section on pages 55-63 in **Cost Centres – Rethinking Legal Identity & Learning Vision**"
- Read pages462-276 of - **Cost Centres – Rethinking Legal Identity & Learning Vision**"

DLT (Digital Learning Twin)

Description:

The digital learning twin is an AI based learning model, for each learner. In my discussions with computing experts, they've told me they like the concept of a digital learning twin, but don't think the computing power is here yet to do many people's DLT's continually. I accept this.

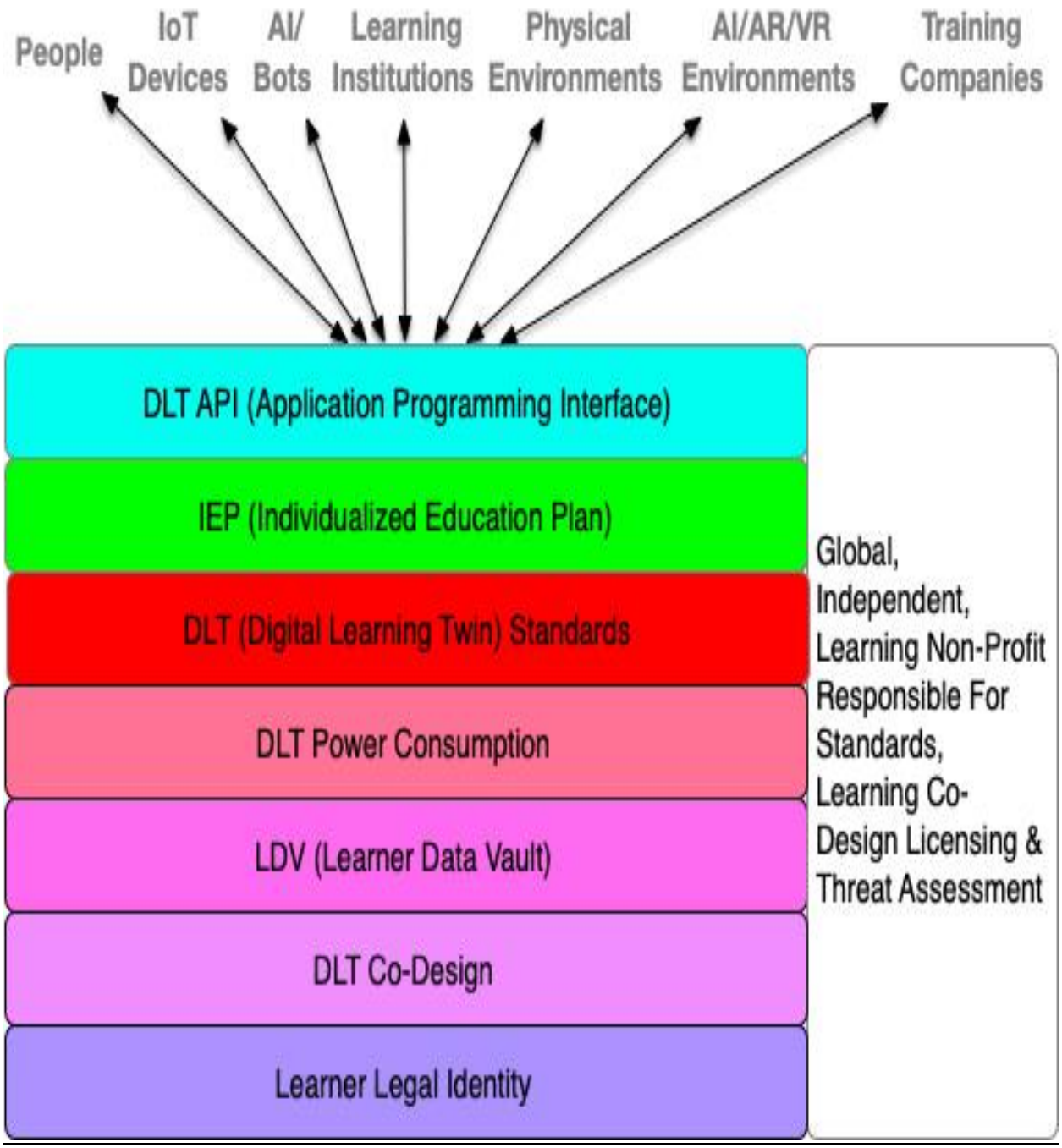
Thus, my strategy is to edge our way into this revolution, using limited portions of computing to create a DLT, which in turn will create first draft IEP (Individualized Education Plan). Then to only do periodic updates to the DLT. Over time, as computing power increases and costs drop, increase the frequency of the updates along with richer data from biometric, behavioral, and other learning data sources.

My other strategy in creating the DLT is to first focus on the learning assessment piece. It's the initial source of data for the DLT. Thus, by first starting with ADHD/ASD learning assessments, it brings in a rich data set to the DLT to work upon.

The longer-term strategy is to integrate learning assistant bots et al as sources of continual learning data about each learner into the DLT. It's hypothetically possible to off-load from the DLT to a bot, some of the computing power required to process DLT type information. Thus, this too should be a consideration of the DLT design and implementation team.

Note: A person's DLT MUST be legally registered against the learner's legal physical identity in the local CRVS. However, also note that in the beginning, while doing DLT development, the legal human and AI system/bots framework isn't required.

DLT Cost Centres Diagram:



Reference Links:

- Read pages 374-382 of "**Cost Centres – Rethinking Legal Identity & Learning Vision**

LDV (Learner Data Vault):

Description:

The old data model we use today, in most applications, is a person's personal data is typically stored by other third parties in their applications' data systems. This equally applies to schools. Thus, a learner has little to no control over their learning data within the applications, databases et al, which they produce daily. THIS IS NOT PRIVACY BY DESIGN. I wanted to flip this on its head.

Just as in SOLICT, I want to begin to think about giving each person on the planet a personal learning data vault, which they control. This puts any entity wanting to interact with the learner, first requiring their consent to use the data. Then, I'm also proposing storing the data in the learner data vault i.e., the enterprise is now no longer the keeper of the learning data. This is privacy by design.

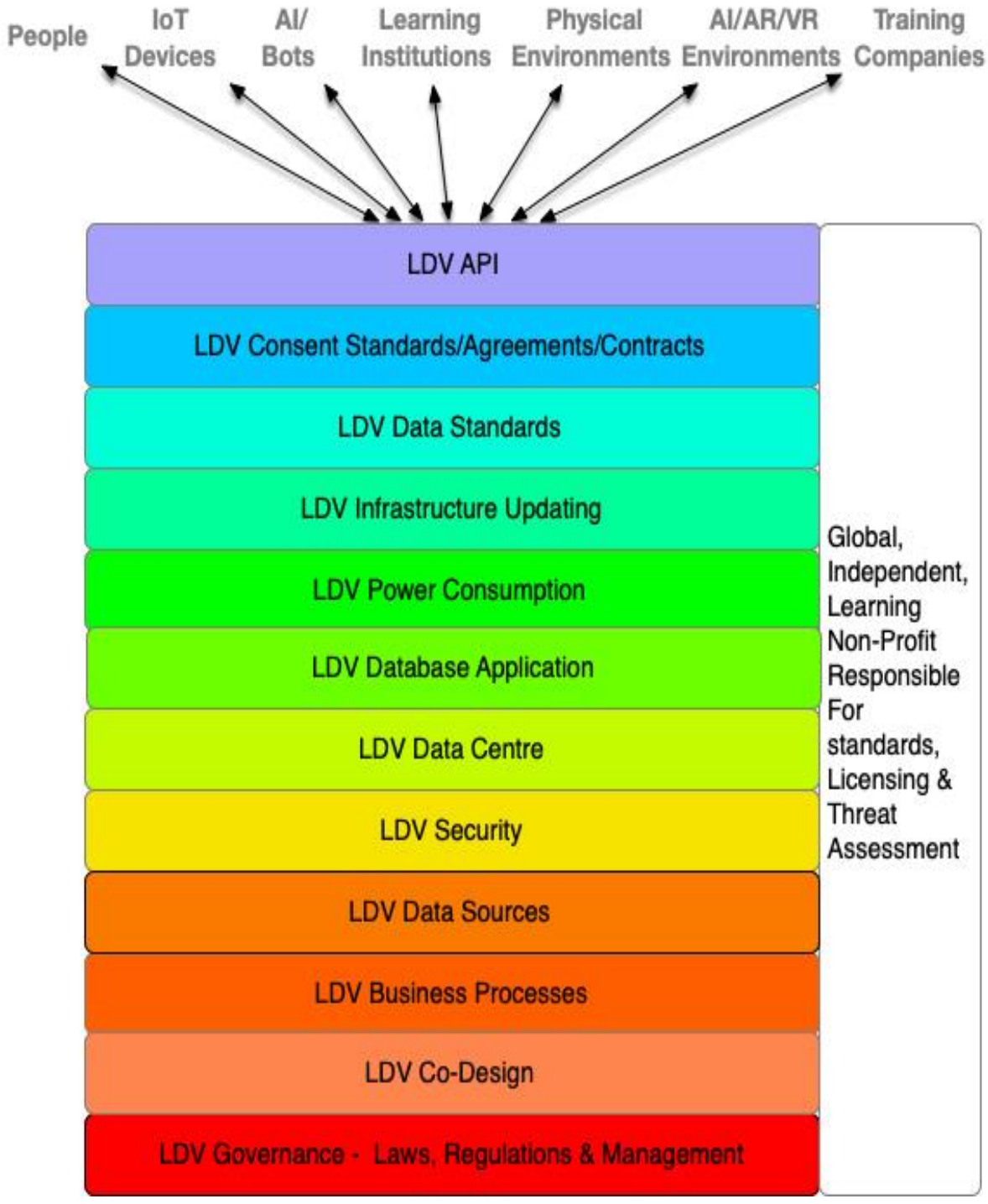
Is this all possible today? No. Is it possible, as the cost of data storage continually drops? Yes. Are there potentially large operational costs associated with this? Yes. Are there security risks associated with this? Yes. Thus, prudence is required in any design, governance and implementation model proposed for this.

All of this begs the question who's going to pay for it and operationally run it? My strategy is to use a similar approach used with SOLICT i.e., have a global, independent, non-profit manage the LDV.

In the cost centre section, it proposes a funding model similar to the legal framework non-profit i.e., licensing it out to jurisdictions. The funding model sees a very small fee per student on the planet, to license the standards and security associated with learning assessment, DLT, IEP, credential API and the LDV. Hypothetically, there could be enough money to fund the LDV.

The architectural cost centre document is visionary. As continually stated throughout it, a vision doesn't happen overnight. Thus, as with all other sections of the doc, I'm recommending a crawl, walk and run strategy to get from where we are today, to the promised learner data vault land.

LDV Cost Centres Diagram:



Reference Links:

- Read pages 383-401 of "**Cost Centres – Rethinking Legal Identity & Learning Vision**

Continual Learning Assessments

Description:

The learning vision is built on having in-depth learning assessments done on learners, from when they're a toddler. Further, the vision calls for automated learning assessments done by physical bots. All the data from this, flows into a DLT, hence creating an IEP per learner. Is all this possible today? No. Is the tech here allowing for it to be done in POC's? Yes. Do pieces of the assessment vision exist? Yes.

Ability of AI To Literally Read Our Brain:

I strongly suggest readers go to 19:30 minute mark of "The AI Dilemma". It shows how an AI system can accurately read our minds. Today, the price points for doing this are high and the tech required is complex. However, this curve means sooner rather than later price points and complexity will drop. Thus, I created an assessment section devoted to Biometrics/Behavioral/Neural Data in Assessments with AI's ability to read our minds front and centre.

Co-Design:

Each learner on the planet, regardless of their abilities or disabilities, MUST be able to:

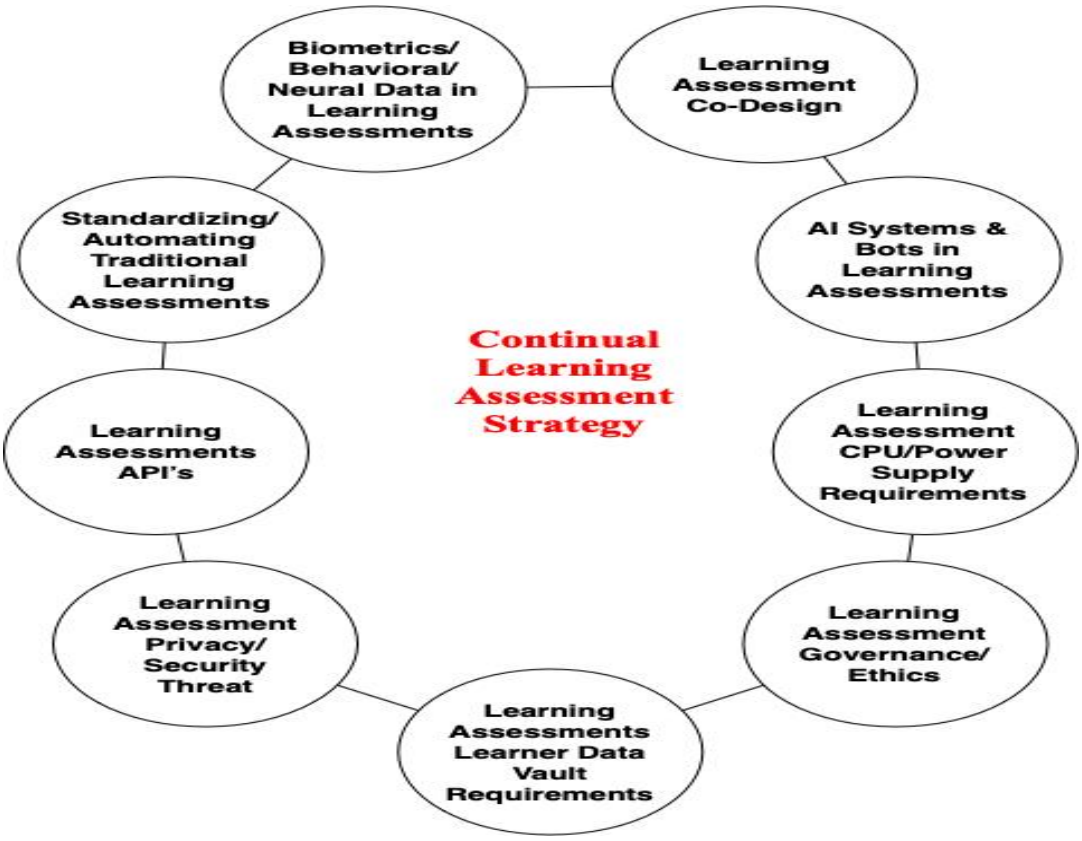
- Understand what learning assessments are
- Know what type of learning assessments are being used with them
- Give their approval (or their parents/legal guardians do) to use their DLT and LDV data as part of the assessment via their LSSI devices and/or PIAM
- Have the assessment occur which is tailored to their learning style and abilities/disabilities
- With the resulting data stored within their LDV

Thus, co-design is mission critical in achieving this.

AI Systems & Bots in Learning Assessments:

The arrival of genAI has resulted in rapid increase in learners using AI to complete assessments. On the positive side, I can see how AI, physical and digital bots will be used to create new types of learning assessments.

There are 9 Continual Learning Assessment Subcomponent Cost Centres:



Reference Links:

- Read pages 402-415 of "**Cost Centres – Rethinking Legal Identity & Learning Vision**"

IEP – Individualized Education Plan

Description:

Introduced in schools in 1975:

> "The IEP describes how the student learns, how the student best demonstrates that learning, and what teachers and service providers will do to help the student learn more effectively. Developing an IEP requires the team to evaluate the student in all areas of suspected disability, consider the student's ability to access the general education curriculum, consider how the disability affects the student's learning, and choose a federal placement for the student." - https://eric.ed.gov/?id=EJ1013681 .

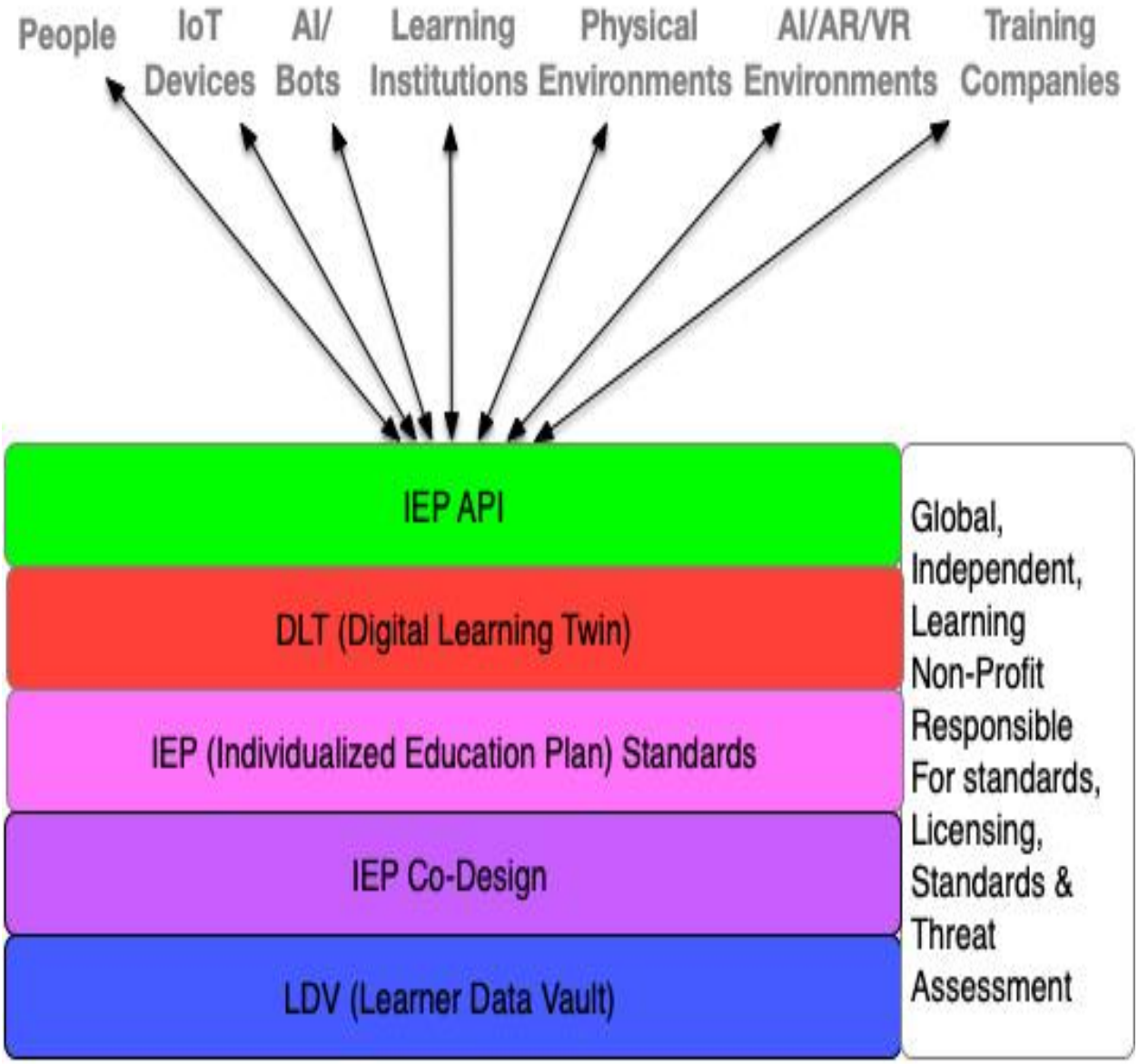
My vision is to give each student on the planet, regardless of their learning abilities, an IEP highly tailored for them. It's continually updated from an increasing rich array of resources i.e., learning assistant bots, teaching assistant bots, humans, and a wide variety of different sensors and assessment devices.

I was told by a winner of the Teaching Award of Canada, that often for ADHD/ASD students the diagnosis is to do one on one instruction. However, since school districts can't afford this, they're often put into small groups, which may or may not work well for the learner.

If one scans current IEP standards (which vary around the planet), you'll find them requiring extensive human input, since currently, there's not lots of different sources of learning data, continually available, to draw upon. My point is I don't want to reduce human interaction, but I want to rethink when humans are used, based on each person's learning needs and learning deliverables required. **AI systems and bots, both physical and virtual, plus a wide variety of sensors, can fill this need. Thus, it's time to rethink IEP's leveraging this.**

It's early days in using different data sources to fine tune IEPs. Thus, as noted throughout the cost centre document, the strategy is to crawl, walk and then run. The crawling step is to begin to develop a more data driven IEP from the initial learning assessment, which feeds the DLT.

IEP Subcomponent Cost Centres:



Reference Links:

- Read pages 416-422 of **Cost Centres – Rethinking Legal Identity & Learning Vision**"

Learning API (Application Programming Interface):

Description:

A major performance and security question is how to securely access:

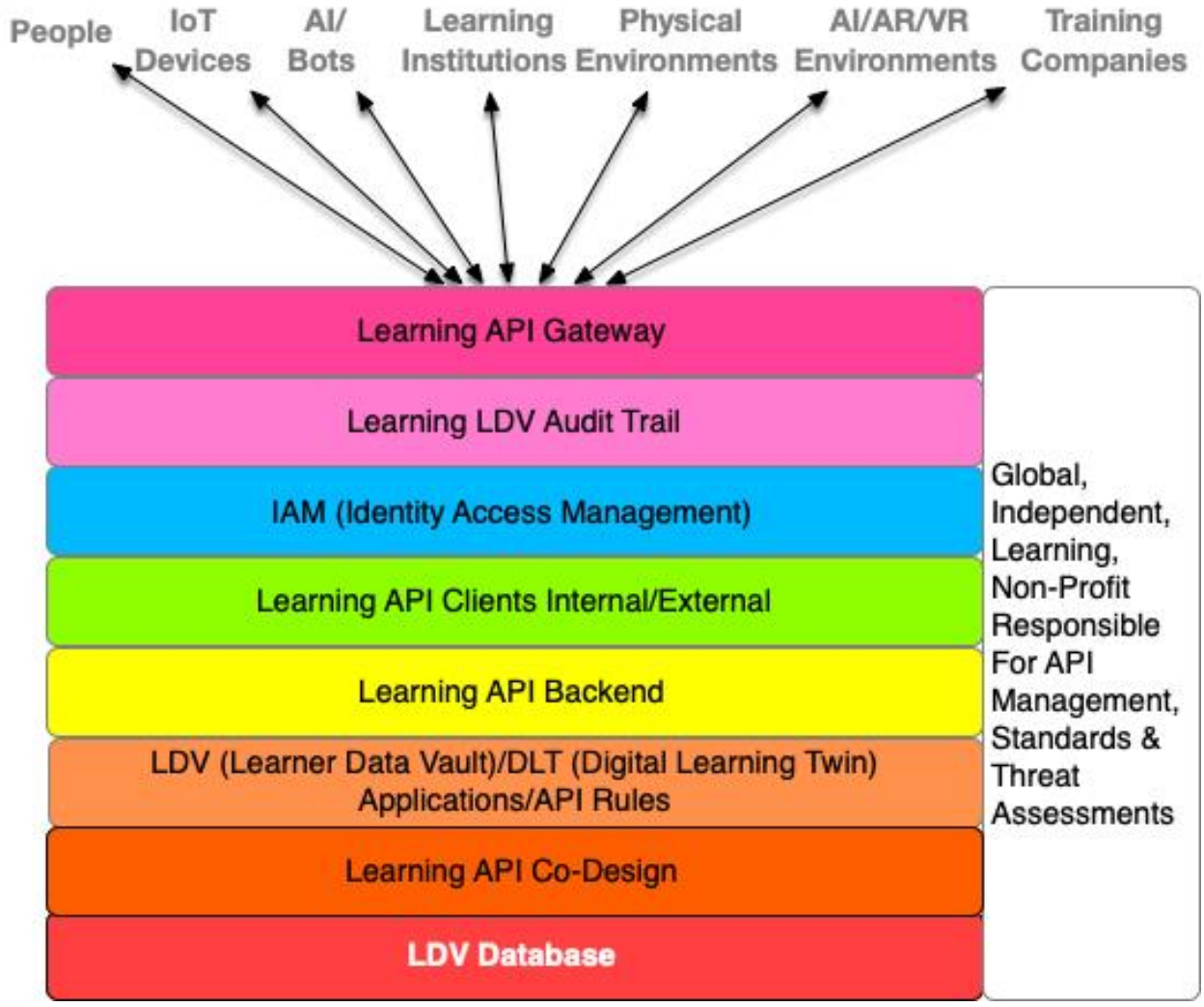
- LDV (Learner Data Vault)?
- DLT (Digital Learning Twin) access to the LDV?
- IEP?
- Third party consent agreements about accessing, inputting, and retrieving LDV data (which will be sent to the learner's SOLICT (Source of Legal Identity & Credential Truth)?

Answer - Create standard API's (Application Programming Interface).

It addresses the problems of how to query billions of learners' LDVs. So, I've included this in the architecture to get discussion and debate going on how this will be addressed.

Add to the above complexity the rapid attack new attack vectors being created against the legal identity framework from this curve. The API is the electronic front door. Which is why the architecture has the new, global, independent, well-funded, non-profit. One of its tasks is to do 24x7x365 threat analysis and produce rated threats and threat responses. Thus, the API's created will likely be very frequently updated.

Learning API (Application Programming Interface) Cost Centres:



Reference Links:

- Read pages 423-432 of **Cost Centres – Rethinking Legal Identity & Learning Vision**"

Learning Environments:

Description:

Background

The world of learning is changing. With the advent of tech like AI, AR, VR, and a whole slew of devices able to detect, record and leverage a person's biometrics and behavioral data, it changes where and how a learner learns. It's now no longer mainly confined to classrooms in schools.

As an example, my wife works with high school kids and employers arranging for them work-experience programs that line up with their interest's post-secondary. This involves arranging contracts between the student, the employer, and the school district. My point?

As wearable teach infiltrates workplaces, homes, and schools, suddenly contracts in the future will need to specify what data can be collected, how it will be used, stored, archived, and terminated. Additionally, competencies the student gains outside of the traditional school environment can be measured, and assigned to the student, to new global standards.

Soon, as John Doe, in school district X, in Jurisdiction Y, is doing a virtual work experience using AI/AR/VR with an employer in Jurisdiction Z, means contracts now need to be able to function across many different jurisdictions. Thus, I believe there are fundamental components of these types of contracts, which will be the same across many jurisdictions.

Yes, it's complicated. No, we shouldn't try to solve the planets legal contract problems with students et al, all at once. Instead, to be successful, we must learn to crawl first, then walk and run.

Thus, in the cost section, you'll see it suggesting:

- Finding 1-3 jurisdictions with education systems wanting to work with
- Find willing businesses/employers to work with who can offer students work experiences, etc.
- Leverage co-design to enable students with different abilities and disabilities to work in the workplaces
- Leverage the SOLICT/LSSI infrastructure to generate contracts with people
- The contracts for a learner/employer/etc./ should be stored in the learner's SOLICT
- Developing global standards for learning contracts & competencies the learner gains out in the real world

Reference Links:

- Read page 433 of "Cost Centres – Rethinking Legal Identity & Learning Vision"

LMS – Learning Management System

Description:

Since the late 80's, standards have been developed for learning management systems:

- 1988 – **AICC** (Aviation Industry Computer-based Training Committee) - https://en.wikipedia.org/wiki/Aviation_Industry_Computer-Based_Training_Committee
- 2001 – **SCORM** (shareable Content Object Reference Model) - https://scorm.com/
- 2010 – **LTI** (Learning Tools Interoperability) - https://www.imsglobal.org/activity/learning-tools-interoperability
  https://adlnet.gov/publications/2016/05/Choosing-a-Learning-Record-Store-LRS/
- 2011 – **LRS** (Learning Reference Store) - https://adlnet.gov/publications/2016/05/Choosing-a-Learning-Record-Store-LRS/
- 2013 – **xAPI** - https://xapi.com/overview/
- 2015 – **cmi5** - https://aicc.github.io/CMI-5_Spec_Current/

A good overview of LMS can be found in "**Chapter 4 - All About the LMS Standards and Specifications by Colleen Griffiths**" - https://edtechbooks.org/learning_management_systems/all_about_lms.

Here's my main point – the advent of the DLT) coupled with highly customized IEP, LDV, with the emergence of learning assistant bots/teaching assistant bots, and the beginnings of standardized contracts which are stored in either the person's SOLICT or their education data vault, changes the underlying LMS landscape. **It puts the learner front and centre in controlling their own learning rather than being "taught" by a school, school district, post-secondary or enterprise training system, with their learning data stored beyond their control**.

Having said this, it's not going to happen overnight. This document is a visionary one, continuously referring to crawl, walk and then run stages. **THUS, I'M NOT SAYING EXISTING LMS STANDARDS ARE GOING TO GO AWAY ANYTIME SOON.** What I am saying is I suspect a new standard will arise out of all the POC's, pilots and 1-3 jurisdictions rapidly scaling called out for which this document appendix cost section on rethinking learning identifies.

Areas where I can see changes coming, sooner rather than later, include use of TODA capability files. These govern, with the learner's parents/legal guardians contract permission, as well as school/school district's permission, authorization rights on how the learner will learn. Leveraging TODA ensures that on X date, at Y time, Z capability files were issued to a person, entity or whomever. All I can see in my head is the tech tsunami wave hitting the shores of learning management systems.

Reference Links:

- Read page 434 of **Cost Centres – Rethinking Legal Identity & Learning Vision**"

Learning Competencies/Credentials

Description:

Bad news - around the planet, proving you've had a secondary or post-secondary credential is difficult digitally. Why? There are few global standards for education credentials.

Good news – Since 2012, and established as a foundation in 2016, the Groningen Declaration Network (GDN), is a global non-profit dedicated to creating standards for digital learner data portability - https://www.groningendeclaration.org/.

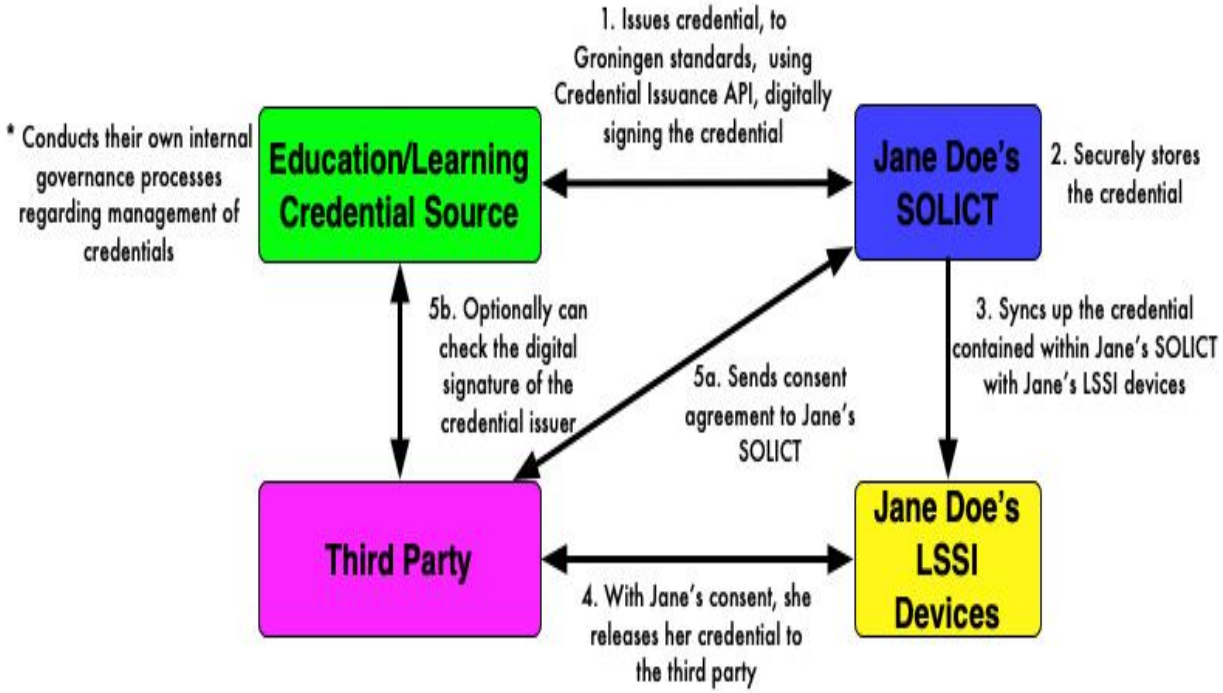
Today students can learn via AI/AR/VR environments and traditional on-line learning, along with an increasing ability to digitally apply for jobs, post-secondary enrollment, trades, professions etc. Thus, not having global standards presents problems for not only students, but also governments, institutions and businesses trying to confirm the learner's credentials.

SOLICT/LSSI/PIAM offers a new solution for the learner being in control of their learning credentials. HOWEVER, it requires education institutions around the planet to be able to do the following:

- Write an education credential to global standards
    - i.e., Groningen type standards
- Be able to digitally sign the credential, proving the learner received it from a credible education institution
- Leverage the same API to securely export the credential out of the education institution to a learner's SOLICT, via a TODA file i.e., on X date, at Y time, credential Z was sent from the educational institution to Jane Doe's SOLICT file
    - By leveraging the same API which the global, independent non-profit for legal identity constantly does threat assessments against, ensures the long-term security of the educational institutions end point

Note: The strategy this document suggests for processes for issuing the education credential is the same as the one suggested on pages 187-197 in "**Cost Centres – Rethinking Legal Identity & Learning Vision**"". Thus, this cost centre is being borne by the legal identity non-profit's cost centre..

Learner Credential Example:



Reference Links:

- Read page 488 of [Cost Centres – Rethinking Legal Identity & Learning Vision]"

Outside The Box Learning POC's & Pilots Leveraging AI Systems, Bots & Rethought Human Learning Specialists

Description:

Six decades ago, when I was young child. I was dyslexic. My parents hired a private teacher to work with me. Luckily, I quickly learnt to scan from left to right. However, as noted in "**My Learning Journey**, this experience made me closely watch as others learnt. I watched many of my fellow classmates fall off the learning conveyor belt described in "**Sir Ken Robinson - You Nailed It!**" It led me to do lots of change management in the education system as a volunteer.

The reason I tell you this is 8 years ago I wanted to rethink learning from the learner on up, starting when they're a toddler. I realized I couldn't create a new learning architecture without first rethinking a legal identity architecture for humans, AI systems and bots. 8 years later, all of the above is required to now rethink learning i.e. thinking outside the box from the learner's perspective.

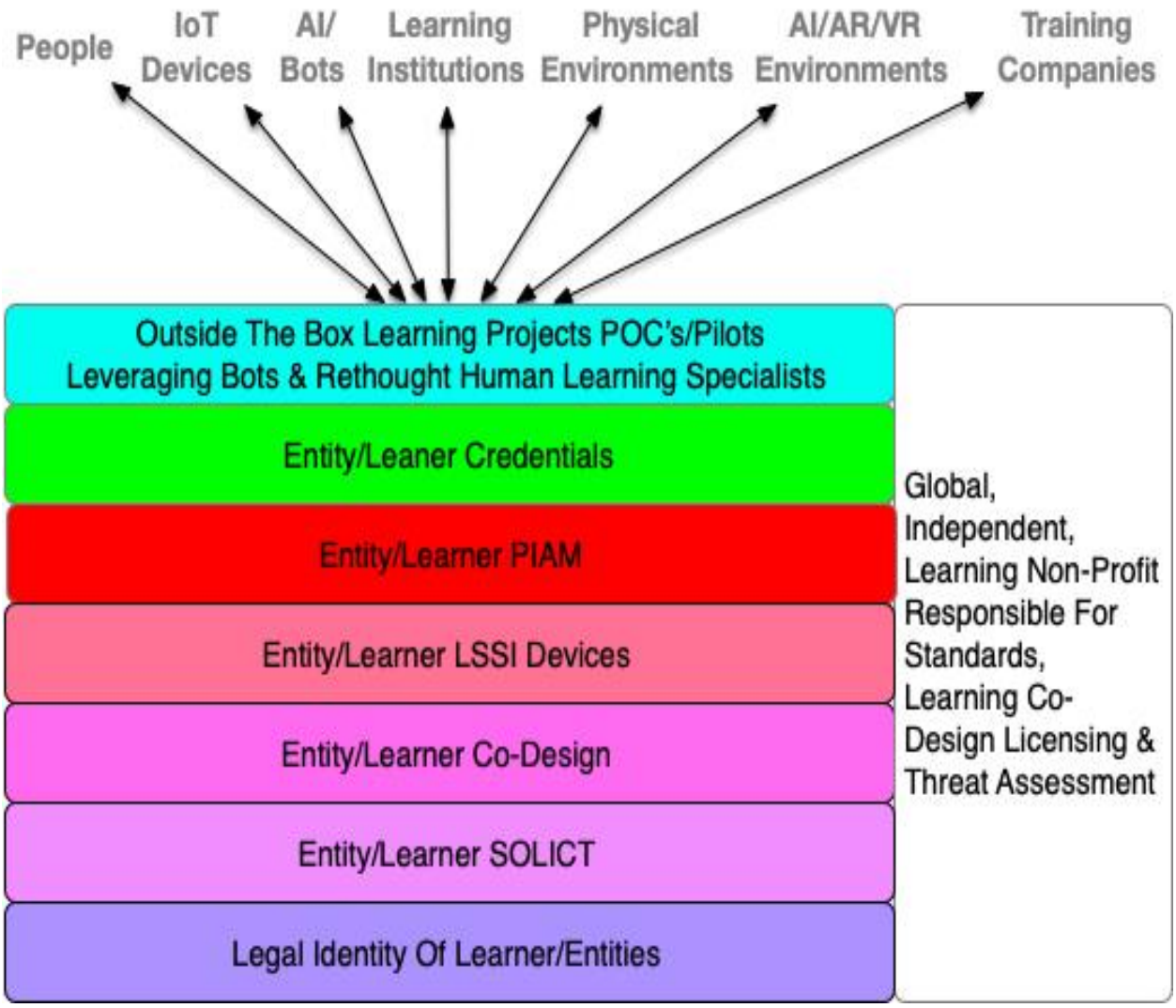
I can see leveraging:

- DLT leveraging all sorts of new data points about the leaner e.g. neural and biometric data, behavioural data, etc.
- Producing continually customized IEPs for each learner
- Different types of physical and digital bots to acts as learning assistants or specialized teaching assistants
- Rethought teachers (which I call human learning specialists)
- Many different types of learning/training environments including AI/AR/VR, workplace environments, etc.
- Rethought learning assessments
- Etc.

It will likely take a year to implement all the components this document focusses on. I can see in years two and three, all sort of outside the box learning projects spinning up.

Do I know what they are? No. However, I've allocated funds for 30 outside the box learning projects, which leverage the architectures, to rethink learning, for all learners, regardless of their abilities or disabilities. It's time to dream a new learning future.

Outside The Box Learning POC's & Pilots Leveraging AI Systems, Bots & Rethought Human Learning Specialists Cost Centres:



Reference Links:

- Read page 437-440 of [Cost Centres – Rethinking Legal Identity & Learning Vision]"

Making Learning Vision Work in Remote, Poor Areas

Description:

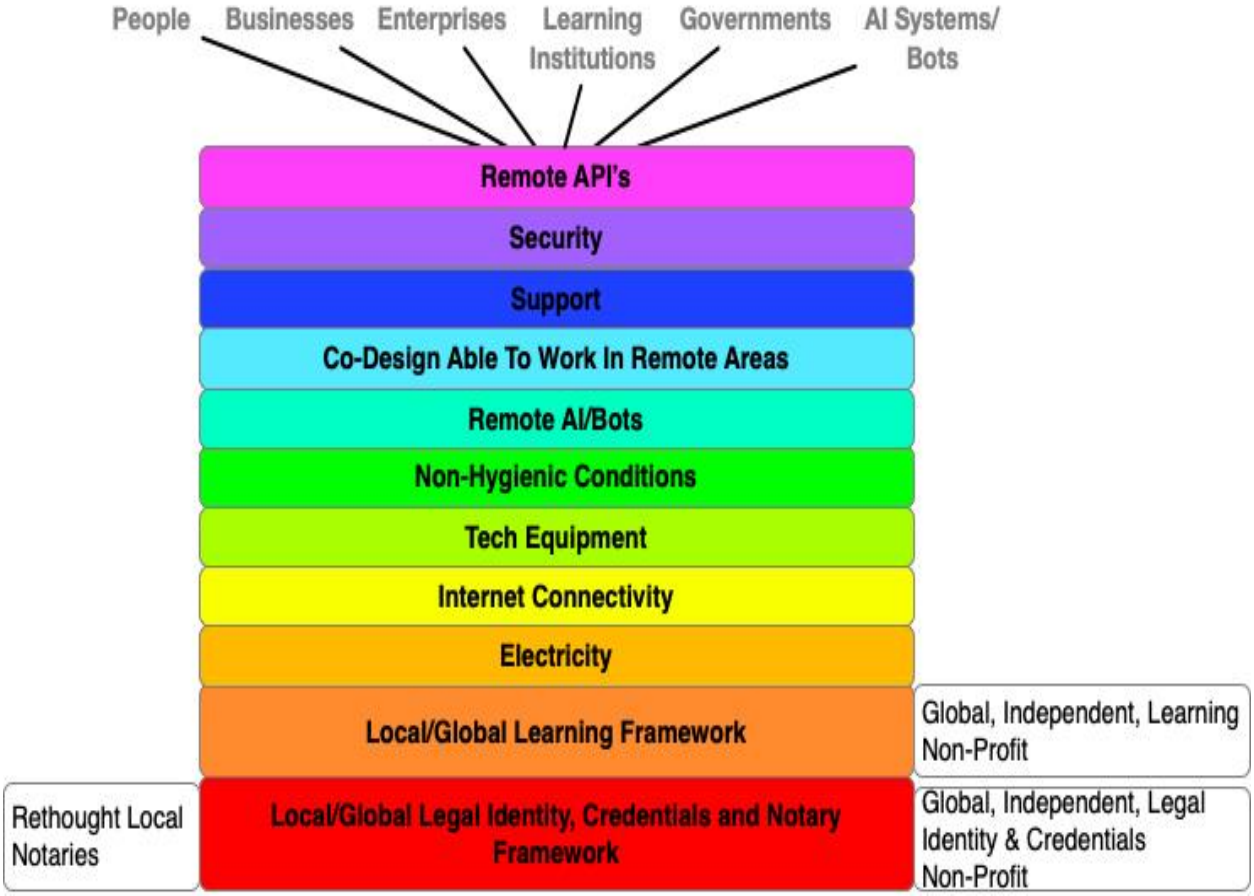
To see a vision story about leaving no learner behind on the planet who lives in remote areas, skim "**Learning Journey of Two Young Kids In A Remote Village**". There are many challenges associated with this idea, including but not limited to:

- Lack of electricity
- Lack of cheap, reliable internet connectivity
- Criminals who might want to steal the bots used in small villages
- Lack of local support facilities for things like AI/AR/VR environments
- Etc.

It's what I call in my head a "whopper challenge". So, what are the potential cost centres associated with this?

Making Learning Vision Work in Remote, Poor Areas Cost Centres Diagram:

I'M NOT AN EXPERT IS ANY OF THESE AREAS, so experts may have better ideas on the cost centres.



I've allocated between 900 million to $1.5 billion for the above. Experts might substantially change these numbers.

Reference Links:

- Read page 441-456 of **Cost Centres – Rethinking Legal Identity & Learning Vision**"

Global, Independent, Learning Non-Profit

Description:

This curve frequently referred to in this document created problems that Albert Einstein was quoted as saying, "**We can't solve problems by using the same kind of thinking we used when we created them.**" Change happens faster and faster, potentially creating new attack vectors each hour.

Our old learning and legal identity systems weren't built for this. **The curve requires out of the box thinking for out of the box times.** Which is why this architecture models what the legal identity architecture specified i.e. creation of a global, independent non-profit, but a sperate one for the learning solution framework. Its job is to do the following:

- Establish and maintain new LDV (Learner Data Vault) standards
- Establish and maintain new DLT (Digital Learning Twin) standards
- Establish and maintain Learning Assessment standards
- Establish and manage IEP (Individualized Education Plan) standards
- Manages LDV databases
- License LDV/DLT to jurisdictions & training companies
- Does 24x7x365 threat analysis against not only the tech used in learning solution framework, but also the governance, business processes and end users, issuing rated threat assessments, which people, IoT devices, AI systems/bots, learning institutions & training companies respond, within certain time periods, based on threat levels
- Manages learning API standards
- Manage learning co-design standards

The actual learning participants legal identities and their education/learning credentials can be protected by the proposed global, independent non-profit proposed throughout the global, independent legal identity non-profit. However, it can't, and shouldn't be responsible for learning system protection and standards. That's why I've included in the architecture, a separate global, independent learning body to do this. They'll handle the learning systems, DLT, IEP, assessment, learner data vaults, API's et al.

The non-profit begs the question, who'll pay for it?

My strategy is to use a similar funding model that's proposed for the SOLICT/LSSI/PIAM/API legal identity non-profit. I'm proposing each educational jurisdiction around the planet pay an annual small license fee per student, to a maximum yearly amount. This would fund the non-profit.

Why should a jurisdiction license the above? It will reduce their costs. How? From the moment a learner shows up at their door, they'll be able to access their LDV's and IEP's. It will allow for streamlining the traditional yearly class structure by being able to leverage tech to aid a learner to learn, faster, cheaper and better.

For example, consider the West Vancouver School District where I live. The district, or the provincial ministry of education, would pay a fee per each of their students enrolled in the school district to the global non-profit. In return they can leverage the standards for the DLT, IEP, learner data vault, LMS et al as part of the products they buy, subscribe to, or build themselves. As importantly, they'd also continually receive rated threat assessments 24x7x365.

As part of the license agreement, they'd agree to respond accordingly. So, a very low risk might take months or longer to address, while a very high risk would be responded to within hours. This is bringing current industry best practices to the new emerging world of learning.

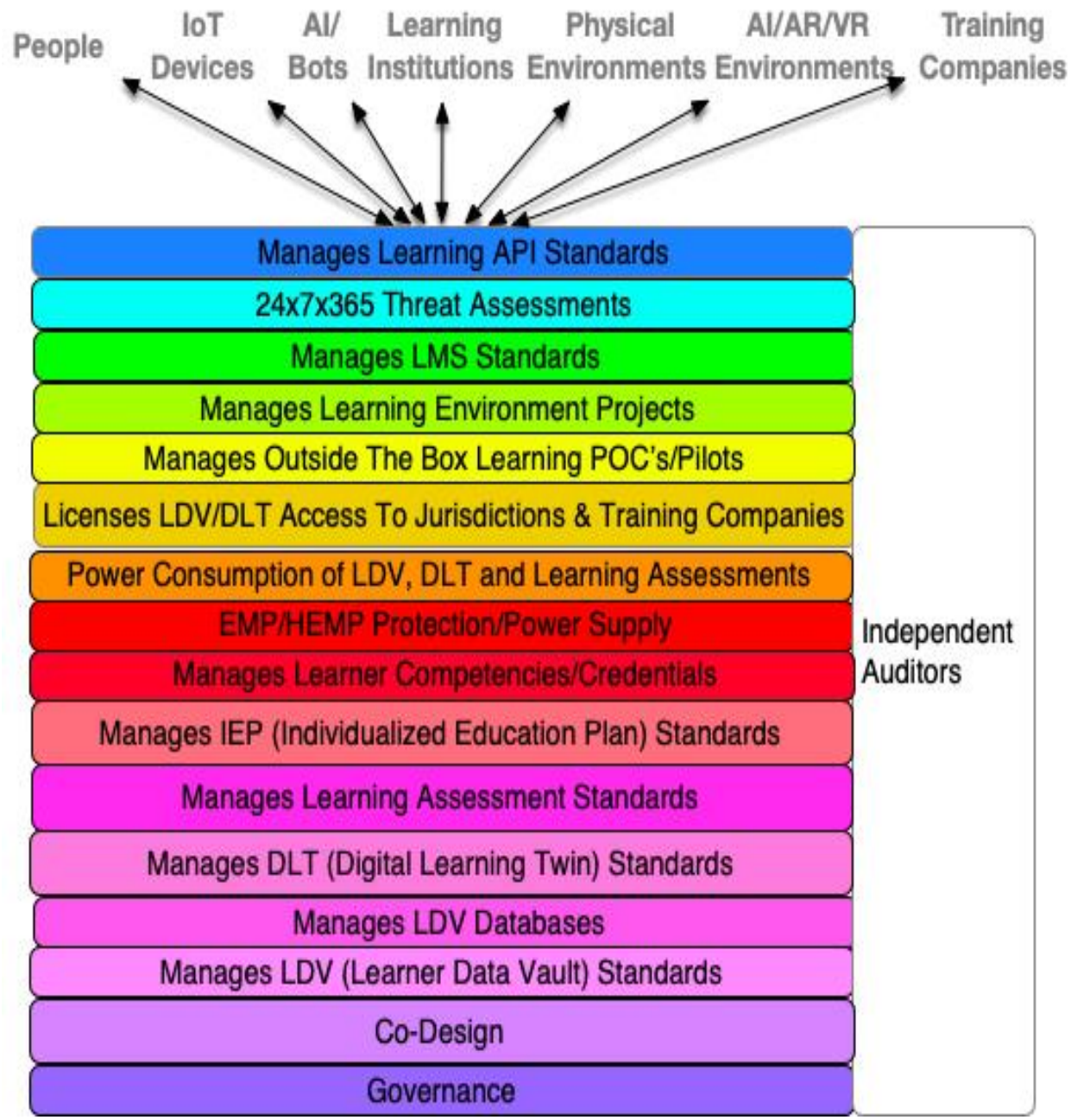
It also applies to the vendors. For example, a learning assist bot vendor would pay a small fee to leverage the global learning standards and incorporate them into their products/services. They'd agree to respond in a similar manner to threat assessments.

The fees must be low per student and per vendor, to ensure wide adoption and continued use of the standards and threat assessment response framework. It must encourage innovation caused by the curve, while at the same time rapidly adopting security frameworks for new threats.

Finally, I again note this is a visionary architecture document. It will take time to be deployed in 1-3 educational jurisdictions around the planet with vendors participating. Using the crawl, walk and run strategy.

That's what this cost centre delivers. It's out of the box thinking for out of the box times.

Global, Independent, Learning Non-Profit Cost Centres:



Reference Links:

- Read page 457-502 of **Cost Centres – Rethinking Legal Identity & Learning Vision**"

Summary

A new learning vision is easy to spout off. Designing, implementing, and sustaining it is very hard to do. To achieve the vision requires detailed plans, which are changeable when the vision doesn't work out exactly as initially depicted.

Thus, that's what this document addresses. This document dives into the details, identifying key architectural and cost components. It shows you, decision makers, all the key pieces to the puzzle.

Further, throughout the document, it continually talks about breaking the cost centres down into crawl, walk and then run components. Work with 1-3 jurisdictions around the planet to do many different parallel proofs of concepts (POC's). Learn what doesn't work, what works, and then do small, tightly controlled pilots. Then rapidly scale.

Achieving this requires an out of the box, innovative country to fund. By adopting this, a country can move to the head of the pack in rethinking learning/training for all your learners, regardless of their abilities or disabilities, from toddler to when they're old,

I'll end by stating one of my favorite quotes from Robin Sharma:

"Change is hard at first, messy in the middle and gorgeous at the end."

Note:

1. Readers might want to skim, "**Why Should Your Government Fund The Architectures?**"
2. **Total cost guesstimates are between $21.3-35 billion to fund the legal identity/credential and learning architectures.**

About the Author:

Guy Huntington is a veteran, trail blazing identity architect, program and project manager who's lead as well as rescued many large identity projects with many of them involving identity federation. His past clients include Boeing, Capital One, Kaiser Permanente, WestJet, Government of Alberta's Digital Citizen Identity and Authentication Program and Alberta Blue Cross. As one of his past clients said "He is a great find, because he is able to do high quality strategic work but is also well-versed in project management and technical details, so he can traverse easily from wide to deep. With Guy, you get skills that would typically be encompassed in a small team of people."

For the last eight years, he's been thinking, writing, and searching for new pieces with which to rethink both human and AI System/Bot legal identities, as well as also rethinking learning. He now has an architecture and plans addressing this and is in discussions with several countries to fund and deploy.

Guy consults on this.