

## New Age Architecture Principles Summary



Copyright: 123RF

**Author:** Guy Huntington, President, Huntington Ventures Ltd.  
**Date:** Created September 2018/ Updated April 2019

## Note to Reader:

I have been writing about rethinking civil registration systems since 2006

- [“The Challenges with Identity Verification”](#)

Over the last year, I have written 22 papers. Here’s a listing of them, by subject area, with links to each one:

- Example story of an identity’s lifecycle
  - [The Identity Lifecycle of Jane Doe](#)
- Technological Tsunami Wave of Change
  - [Harnessing the Technological Tsunami Wave of Change](#)
- One-page summary
  - [One Pager - The Age of AI, AR, VR, Robotics and Human Cloning](#)
- New age identity, data and consent
  - [Privacy Gone – AI, AR, VR, Robotics and Personal Data](#)
  - [Kids Privacy in Non-Private World - Why Even Super Hero’s Won’t Work](#)
  - [I Know Who You Are & What You’re Feeling - Achieving Privacy in a Non-Private World](#)
  - [Consent Principles in the New Age – Including Sex](#)
  - [Policy Principles for AI, AR, VR, Robotics and Cloning – A Thought Paper](#)
  - [Legal Person: Humans, Clones, Virtual and Physical AI Robotics – New Identity Principles](#)
- Robotics, clones and identity
  - [Legally Identifying Robots?](#)
  - [Rapidly Scaling Robot Identification?](#)
  - [Virtual Sex, Identity, Data & Consent](#)
  - [I’m Not a Robot](#)
- New age civil registration legal identity framework
  - [“Why the New Age Requires Rethinking Civil Registration Systems”](#)
  - [“What New Age Civil Registration Won’t Do”](#)
- New Age Assurance
  - [“New Age Assurance – Rethinking Identity, Data, Consent & Credential”](#)
- Deploying AI, AR, VR, robotics, identity, data and consent in challenging locations
  - [“Where Shit Happens”](#)
- Protecting the civil registration/vital stats infrastructure
  - [“When Our Legal Identity System Goes “Poof!”](#)
- New age architecture principles summary
  - [“New Age Architecture Principles Summary”](#)
- Leveraging Blockchain and Sovrin
  - [“A Modern Identity Solution: New Age Vital Stats/Civil Registries, Self-Sovereign Identity, Blockchain, Kantara User Managed Access & EMP Resistant Data Centres”](#)

Huntington Ventures Ltd.  
The Business of Identity Management

- Creating Estonia Version 2.0
  - [“Creating Estonia Version 2.0 – Adjusting for Changes From 1999 to 2018”](#)
- New age civil registration/vital stats design, implementation & Maintenance Vision
  - [“Guy’s New Age Civil Registration/Vital Stats Design, Implementation & Maintenance Vision”](#)

All papers are available off my website at <https://www.hvl.net/papers.htm>

Huntington Ventures Ltd.  
The Business of Identity Management

## TABLE OF CONTENTS

<b>NOTE TO READER:</b>	<b>2</b>
<b>EXECUTIVE SUMMARY</b>	<b>6</b>
<b>Introduction</b>	<b>8</b>
<b>New Age Architecture Principles</b>	<b>8</b>
Laws/Regulations	8
Identities	9
Legal Digital Identity Plus a Legal Anonymous One	9
Citizens Should Have the Highest Level of Identity Assurance at Birth	9
The New Age Civil Registration System MUST Have the Ability to Differentiate Human Clones	9
Biometrics Used in the New Age Civil Registration System MUST NOT be Able to Profile People	10
Robots Require Legal Identities at Creation	10
Confirm Death Identity by Biometrics if Available	10
Legal Processes for Terminating a Robot	10
Requires Ability to Cross-Search All Jurisdictions' New Age Civil Registries	10
Enable People Who Live in "Challenging Parts of the Planet" to be Legally Identified at Birth	10
Enable People Who Don't Have Access to the Technology to Protect Their Identity and Data	10
Identifying and Managing Data and Consent for Robot Singularity Must Be Legally Spelled Out	11
Identity Data In and Never Out	11
Identity Should Be Delegable	11
Use of Readers User to Confirm an Identity's Biometric/Behavior MUST be in a Secure Environment	11
Biometric Reader/Data Entry/Telecommunication Device Required for Registering People in Remote Locations	11
Legal Minor's Identity Should be Protected by Law/Regulations	11
All Civil Identity Registration Changes Requires High Level Identity Assurance	12
Ability of Citizens to Legally, Digitally Sign Documents	12
Linking Records to Parent/Legal Guardians and/or Robotic Owners	12
Data	13
Citizens Own and Control Their Own Data Produced About Them	13
Data Consent MUST be Informed	13
Data Consent Should Be Centrally Managed by the Citizen	13
The Citizen MUST be able to Legally Delegate Data Sharing Consent	13
Legal Minor's Data Should be Protected by Law/Regulations	13
Power of Attorney's MUST have the ability to Legally Share Their Charge's Data	13
Data Requires a Chain of Custody	13
Data Sharing in an AI/AR/VR/Physical Environment MUST be Legally Regulated	14
Exceptions to the Above Architectural Principles MUST be Carefully, Legally Regulated	14
One Central Biometric/Behavioral Data Law All Other Laws Refer To "Zones of Trust"	14
Consent	15
Centrally See/Manage All Consents Given	15
Change Consents Where Allowable by Law	15
Consent Management Should be Based on Risk	15
Secure Consent Management	15
Consent Transfer Policies	15
Managing Minor Consents	15

Huntington Ventures Ltd.  
The Business of Identity Management

Managing Power of Attorney Consents	15
Robotic Consent	15
Chain of Identity/Data Custody Via Consents	16
All Consents Shall be Governed by a Central Consent Law/Regulation	16
Consent Laws Need to be the Same Globally	16
Informed Consent Over “Replay Ability”	16
System Architectural Principles	17
Requires High Availability	17
Separation of New Age Civil Registration from All Other Government/Third Party Identity and Authentication Verification Systems	17
Independent Legally, Physically and Networks	17
Digitally Publishing All New Age Civil Service Records	17
New Age Civil Registration Service, Data and Consent MUST Have Ability to be Rapidly Changed	17
Global Laws, Global Implementation, Global Enforcement	17
Legal Identity Information Must be Stored in Data Centres Which Are EMP/HEMP Proof	18
New Age Tsunami Wave Requires Securing the Grid	18
New Age Civil Registration System Should be Immune from Corrupt Officials and Administrators	18
New Age Civil Registration System Business Processes Risks Must be Mitigated	18
AI Should be Used to Continuously Test Technical System and Business Processes in New Age Civil Registration System	18
The New Age Civil Registration Services Security Architecture MUST be public	18
New Age Civil Registration System Can be Used for Emergency Response Identification	19
Ensuring Enforcement of Identity, Data and Consent in at all Locations on the Planet	19
<b>Summary</b>	<b>20</b>
<b>ABOUT THE AUTHOR</b>	<b>21</b>

## Executive Summary

The paper begins by describing the new age technological tsunami just beginning to strike our planetary shores composed of AI, AR, VR, robotics, genetic engineering, nanotechnology and wireless. It states the waves will change the way we live, work and play.

It then moves on to a discussion of new age architectural principles:

New laws/regulations:

- Identity
- Data
- Consent
- Behavioral/Biometric data

Identities:

- Legal Digital Identity Plus a Legal Anonymous One
- Citizens Should Have the Highest Level of Identity Assurance at Birth
- The New Age Civil Registration System MUST Have the Ability to Differentiate Human Clones
- Biometrics Used in the New Age Civil Registration System MUST NOT be Able to Profile People
- Robots Require Legal Identities at Creation
- Confirm Death Identity by Biometrics if Available
- Legal Processes for Terminating a Robot
- Requires Ability to Cross-Search All Jurisdictions' New Age Civil Registries
- Enable People Who Live in "Challenging Parts of the Planet" to be Legally Identified at Birth
- Enable People Who Don't Have Access to the Technology to Protect Their Identity and Data
- Identifying and Managing Data and Consent for Robot Singularity Must Be Legally Spelled Out
- Identity Data In and Never Out
- Identity Should Be Delegable
- Use of Readers User to Confirm an Identity's Biometric/Behavior MUST be in a Secure Environment
- Biometric Reader/Data Entry/Telecommunication Device Required for Registering People in Remote Locations
- Legal Minor's Identity Should be Protected by Law/Regulations
- All Civil Identity Registration Changes Requires High Level Identity Assurance
- Ability of Citizens to Legally, Digitally Sign Documents
- Linking Records to Parent/Legal Guardians and/or Robotic Owner

Data:

- Citizens Own and Control Their Own Data Produced About Them
- Data Consent MUST be Informed
- Data Consent Should Be Centrally Managed by the Citizen
- The Citizen MUST be able to Legally Delegate Data Sharing Consent
- Legal Minor's Data Should be Protected by Law/Regulations
- Power of Attorney's MUST have the ability to Legally Share Their Charge's Data

Huntington Ventures Ltd.  
The Business of Identity Management

- Data Requires a Chain of Custody
- Data Sharing in an AI/AR/VR/Physical Environment MUST be Legally Regulated
- Exceptions to the Above Architectural Principles MUST be Carefully, Legally Regulated
- One Central Biometric/Behavioral Data Law All Other Laws Refer To
- “Zones of Trust”

Consent:

- Centrally See/Manage All Consents Given
- Change Consents Where Allowable by Law
- Consent Management Should be Based on Risk
- Secure Consent Management
- Consent Transfer Policies
- Managing Minor Consents
- Managing Power of Attorney Consents
- Robotic Consent

System Architectural Principles

- Requires High Availability
- Separation of New Age Civil Registration from All Other Government/Third Party Identity and Authentication Verification Systems
- Independent Legally, Physically and Networks
- Digitally Publishing All New Age Civil Service Records
- New Age Civil Registration Service, Data and Consent MUST Have Ability to be Rapidly Changed
- Global Laws, Global Implementation, Global Enforcement
- Legal Identity Information Must be Stored in Data Centres Which Are EMP/HEMP Proof
- New Age Tsunami Wave Requires Securing the Grid
- New Age Civil Registration System Should be Immune from Corrupt Officials and Administrators
- New Age Civil Registration System Business Processes Risks Must be Mitigated
- AI Should be Used to Continuously Test Technical System and Business Processes in New Age Civil Registration System
- The New Age Civil Registration Services Security Architecture MUST be public
- New Age Civil Registration System Can be Used for Emergency Response Identification
- Ensuring Enforcement of Identity, Data and Consent in at all Locations on the Planet

The paper then ends with a discussion on a strategy to successfully deploy:

- Start with robotic legal identity registration
- Leverage kids and privacy in a non-private world to educate the public about why a new legal framework is required for identity, data and consent

It ends with:

**The incoming technological tsunami waves are already beginning to lap our shores. Within 2-5 years they will mostly be here. If we do nothing, that’s when people will wake up realizing they live in a “Non-Private” world.**

**Now is the time to begin the process of legally getting ourselves ready for this. We need to build new legal identity, data and consent dikes to channel the incoming technical waters.**

## New Age Architecture Principles Summary

### Introduction

There is a technological tsunami approaching our planetary shores composed of:

- Artificial intelligence (AI)
- Augmented reality (AR)
- Virtual reality (VR)
- Robotics (both virtual and physical)
- Genetic engineering
- Nanotechnology
- Wireless

It is changing how we live, work and play. It's also creating a world I call "Non-Private". Readers who want to understand what "non-private" means should read the following papers:

- ["Privacy Gone – AI, AR, VR, Robotics and Personal Data"](#)
- ["I Know Who You Are & What You're Feeling – Achieving Privacy in a Non-Private World"](#)
- ["Kids' Privacy in a Non-Private World" – Why Even Super Hero's Won't Work"](#)

## New Age Architecture Principles

### Laws/Regulations

New laws and regulations pertaining to:

- Identity
  - New age civil registration service for legal identities of humans, robots and clones
    - ["Why The New Age Requires Rethinking Civil Registration Systems"](#)
- Data
  - New age data laws enabling citizens to own and control their data
    - ["Privacy Gone – AI, AR, VR, Robotics and Personal Data"](#)
- Consent
  - New age consent laws enabling citizens to centrally manage their consents
    - ["Consent Principles in the New Age – Including Sex"](#)
- Behavior/Biometric Data
  - New age behavioral/biometric laws protecting citizens sensitive data
    - ["I Know Who You Are & What You're Feeling – Achieving Privacy in a Non-Private World"](#)



## Identities

### ***Legal Digital Identity Plus a Legal Anonymous One***

The paper “[Why The New Age Requires Rethinking Civil Registration Systems](#)” describes how at birth:

- A person is legally identified and registered via a biometric
- Issued:
  - Digital legal identity they can control
  - Digital anonymous identity proving they are a human and if they are of age of consent or not

To illustrate, the paper “[Virtual Sex – Identity, Data and Consent](#)” uses the following example:

Jane Doe wants to have virtual reality sex. She can choose to have AI generated partners and/or also have other AR/VR characters with real people behind them. This brings into question the following legal identity requirements:

- The VR environment Jane is entering needs to know she is of legal age
- It needs to determine she is a person
- It also needs to protect her anonymity unless she otherwise chooses to release her identity
- Her sexual AI partners need to be able to be identified as such as do her human partners
- The other human partners need to have their legal age status confirmed
- All human partners, including Jane, need to provide their informed consent
- Both Jane and the other human partners virtual selves may or may not be required to provide their legal identity

To enter the VR sex environment, Jane Doe would:

- First have to provide an anonymous legal digital identity proving she’s a human over the legal age of consent
- Give her informed consent
- When in the environment she would be able to tell which partners are:
  - Human virtual selves, knowing they are of legal age
  - AI generated

### ***Citizens Should Have the Highest Level of Identity Assurance at Birth***

The citizen, at birth, will have the highest level of identity assurance via the biometric taken and used to register the identity

### ***The New Age Civil Registration System MUST Have the Ability to Differentiate Human Clones***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘At Birth; Biometrics’ states the biometrics used must be able to differentiate human clones.

***Biometrics Used in the New Age Civil Registration System MUST NOT be Able to Profile People***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘At Birth; Biometrics’ states the new age civil registration system MUST NOT use biometrics able to profile people like DNA.

***Robots Require Legal Identities at Creation***

- The paper ““[Why The New Age Requires Rethinking Civil Registration Systems](#)” describes how robots have legal identities at their creation. They are granted both a legal identity and an anonymous legal identity showing they are a robot.
- The papers “[Legally Identifying Robots \(Robot Identification\)](#)” and “[Rapidly Scaling Robot Identification?](#)” explain how the robots would be identified as well as explaining a process to automatically register then at “insane speeds”.

***Confirm Death Identity by Biometrics if Available***

The paper “[Why The New Age Requires Rethinking Civil Registration Systems](#)” discusses how at death, the deceased person’s legal identity is confirmed by biometrics, if available.

***Legal Processes for Terminating a Robot***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section “Robot Termination” discusses legal requirements for terminating a robot.

***Requires Ability to Cross-Search All Jurisdictions’ New Age Civil Registries***

The above robotic papers plus the paper “[Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet](#)” illustrate the requirement to be able to instantly search, where mandated by laws/regulations, all new age civil registries around the planet.

***Enable People Who Live in “Challenging Parts of the Planet” to be Legally Identified at Birth***

The paper “[Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet](#)” discusses how to legally register births in challenging parts of the planet.

***Enable People Who Don’t Have Access to the Technology to Protect Their Identity and Data***

The paper “[Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet](#)” section ‘Digital Issuance’ discusses how to grant people who don’t have access to technology, secure, physical cards to use:

- Proving who they are
- Using this to manage their data and consents.

### ***Identifying and Managing Data and Consent for Robot Singularity Must Be Legally Spelled Out***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section “Robotic Singularity” discusses requirements for legally identifying, managing data and consent for robots acting in singularity.

### ***Identity Data In and Never Out***

The paper “[Why The New Age Requires Rethinking Civil Registration Systems](#)” describes how identity data must be a one way street into the new age civil registration service and never out. The service must only provide a yes or no answer.

### ***Identity Should Be Delegable***

The papers “[Why The New Age Requires Rethinking Civil Registration Systems](#)”, “[Privacy Gone – AI, AR, VR, Robotics and Personal Data](#)”, “[Consent Principles in the New Age – Including Sex](#)” and “[I Know Who You Are & What You’re Feeling – Achieving Privacy in a Non-Private World](#)”, discuss how legal digital identity should have the ability to be delegated.

Examples include:

- Parents/legal guardians able to delegate their child’s identity to grandparents, schools and hospitals, etc.
- People with Power of Attorney over others having the ability to delegate the identity data of the people they’re legally administering to others

### ***Use of Readers User to Confirm an Identity’s Biometric/Behavior MUST be in a Secure Environment***

The paper “[Why The New Age Requires Rethinking Civil Registration Systems](#)” discusses how any biometric/behavior used to legally identify a person must be done under controlled conditions. It mitigates risk of malicious people spoofing a biometric/behavior reader.

### ***Biometric Reader/Data Entry/Telecommunication Device Required for Registering People in Remote Locations***

The paper “[Where Shit Happens](#)” [Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet](#)” section ‘Combined Biometric Readers, Data Entry and Telecommunications Device’ lays out high level requirements for a new age device able to securely work in remote locations to register people with.

### ***Legal Minor’s Identity Should be Protected by Law/Regulations***

The paper “[Kids’ Privacy in a Non-Private World](#)” – [Why Even Super Hero’s Won’t Work](#)” section ‘Legal Identity Framework for Kids’ lays out the requirements for legally protecting a child’s identity.

Huntington Ventures Ltd.  
The Business of Identity Management

***All Civil Identity Registration Changes Requires High Level Identity Assurance***

The paper “[Why The New Age Requires Rethinking Civil Registration Systems](#)” section ‘Name Change, Gender Change and Marriage Registrations’ lays out the requirement for all registration changes to use biometrics, in a secure, controlled condition, to legally identify the person.

***Ability of Citizens to Legally, Digitally Sign Documents***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” discusses how, when a person comes of legal age, they will be given the ability to legally digitally sign documents.

***Linking Records to Parent/Legal Guardians and/or Robotic Owners***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘Linking Records to Parents and/or Robotic Owners’ discusses the requirements for linking from authoritative sources the parents/legal guardians and/or robotic owners to the registration identity.

## Data

### ***Citizens Own and Control Their Own Data Produced About Them***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘Citizens Own and Control Their Own Data Produced About Them’ states citizens MUST own and control data about them.

### ***Data Consent MUST be Informed***

The paper “[Privacy Gone – AI, AR, VR, Robotics and Personal Data](#)” section ‘Premise 3: Data Consent Must Be Informed’ discusses the requirements for informed consent before data is used and/or shared.

### ***Data Consent Should Be Centrally Managed by the Citizen***

The paper “[Privacy Gone – AI, AR, VR, Robotics and Personal Data](#)” section ‘Premise 4: Data Consent Should Be Centrally Managed by the Citizen’ must have the option of centrally managing their consents.

### ***The Citizen MUST be able to Legally Delegate Data Sharing Consent***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘Delegating Data Consent’ discusses the requirement for citizens to have the ability to delegate their data to others.

### ***Legal Minor’s Data Should be Protected by Law/Regulations***

The paper “[Kids’ Privacy in a Non-Private World” – Why Even Super Hero’s Won’t Work](#)” section ‘Legal Data Framework for Kids’ discusses the requirements for laws and regulations protecting kids’ data.

### ***Power of Attorney’s MUST have the ability to Legally Share Their Charge’s Data***

The paper “[Privacy Gone – AI, AR, VR, Robotics and Personal Data](#)” section ‘Premise 6: Data for Legal Minors and People Requiring Power of Attorney MUST be Carefully Regulated by Law’ states people legally managing the affairs of others must have the ability to legally delegate data sharing.

### ***Data Requires a Chain of Custody***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘Secure, Legal Chain of Custody’ discuss the need for chain of custody of a citizen’s data.

***Data Sharing in an AI/AR/VR/Physical Environment MUST be Legally Regulated***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘Having Control Over How Governments and Third Parties Share Data’ discusses the requirement for laws/regulations to regulate how a citizen’s data is used and shared.

***Exceptions to the Above Architectural Principles MUST be Carefully, Legally Regulated***

The paper “[Privacy Gone – AI, AR, VR, Robotics and Personal Data](#)” section ‘Premise 7: Exceptions to the Above Premises MUST be Carefully, Legally Regulated’ discusses how any exception to the above principles MUST be very carefully, legally regulated.

***One Central Biometric/Behavioral Data Law All Other Laws Refer To***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” in a section ‘One Central Biometric/Behavioral Identity, Authentication & Data Law Which All Other Laws Refer To’ lays out the requirements for each jurisdiction to have a central law which all others point to. It’s required in fast paced times where technological changes requires biometric/behavioral changes.

***“Zones of Trust”***

In a new age world, the citizen will likely be receiving or generating gigabits of data EVERY SECOND. The data is very sensitive, allowing the citizen to be rapidly identified via their behavioral/biometric information. The premise is the citizen should be in control of their identity and data, with laws enabling them to select their level of trust.

The paper “[I Know Who You Are & What You’re Feeling – Achieving Privacy in a Non-Private World](#)” describes creation of zones of trust a citizen can select. To illustrate, here’s a hypothetical example:

Jane Doe is walking down the street with her friends Erika, Neil and John, with each one applying zones of trust. Here are hypothetical zones of trust each of them selects:

- Jane – no trust, wants to act anonymously
- Erika - some trust – wants to release identity but not provide consent for data to be used
- Neil - allows both identity and data to be used, automatically providing his consent to pre-approved groups (people groups, industry segments, etc.)
- John - high trust – gives permission for identity and data to be used by anyone

Here’s what could happen:

- Jane is able to walk down the street without others being able to tell who she is and what her feelings are. She’s being private in a non-private world.
- Erika is letting others know it’s her but nothing more. Other people and/or entities like retailers would have to ask her consent to process her data
- Neil lets others know who he is and automatically providing his consent for his data to be used to pre-approved people and/or groups
- John’s identity and data are free to use by anyone

## Consent

### ***Centrally See/Manage All Consents Given***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Centrally See/Manage All Consents Given’ discusses the requirements for citizens to be able to centrally manage all their consents.

### ***Change Consents Where Allowable by Law***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Change Consents Where Allowable by Law’ discusses the requirements for ability to change most of their consents except as otherwise required by laws and regulations.

### ***Consent Management Should be Based on Risk***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Change Consents Where Allowable by Law’ discusses how different levels of consent risk require different levels of identity and credential assurance. These must be specified by laws and regulations.

### ***Secure Consent Management***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Consent Management’ discusses the high-level requirements to ensure the consent management service is secure.

### ***Consent Transfer Policies***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Consent Transfer Policies’ discusses the requirements for laws and regulations to specify how consent transfer processes between central consent managed services will occur.

### ***Managing Minor Consents***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Managing Minor Consents’ discusses high-level requirements to centrally managing legal minors’ consents.

### ***Managing Power of Attorney Consents***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Managing Power of Attorney Consents’ discusses high-level requirements for centrally managing power of attorney consents.

### ***Robotic Consent***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Robotic Consent’ discusses high-level requirements regarding managing robot consents.

***Chain of Identity/Data Custody Via Consents***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Chain of Identity/Data Custody Via Consents’ discusses the high-level requirements for ensuring there is a legal chain of custody for identity and data via consents.

***All Consents Shall be Governed by a Central Consent Law/Regulation***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘All Consents Shall be Governed by a Central Consent Law/Regulation’ states the requirement to have, in each jurisdiction, a central consent law/regulation which all other laws/regulations point to. It’s required due to the fast-paced technological changes the new age brings with it.

***Consent Laws Need to be the Same Globally***

The paper “[Consent Principles in the New Age – Including Sex](#)” section ‘Consent Laws Need to be the Same Globally’ discusses the requirement of having same global consent laws in each jurisdiction.

***Informed Consent Over “Replay Ability”***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘Replay Ability’ discusses how laws/regulations must enable the citizen to have informed consent over the ability for AI/AR/VR/physical environments to be able to store, share and re-use the replay data.



## **System Architectural Principles**

### ***Requires High Availability***

The paper “[Why The New Age Requires Rethinking Civil Registration Systems](#)” describes the need for all new age civil registration services to be highly available.

### ***Separation of New Age Civil Registration from All Other Government/Third Party Identity and Authentication Verification Systems***

The paper ““[Why The New Age Requires Rethinking Civil Registration Systems](#)” describes how the only think the new age civil registration service does is to verify an identity. It MUST not have the ability to contain contact information, etc. The paper states we must not create the mother of all identity databases.

### ***Independent Legally, Physically and Networks***

The paper “Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper” section ‘Independent Legally, Physically and Networks’ states the requirements for the new age civil registration service to be on separate physical networks and separate physical facilities.

### ***Digitally Publishing All New Age Civil Service Records***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section ‘Digitally Publishing All New Age Civil Service Records’ discusses the requirement for having all new age civil registration records digitally published.

### ***New Age Civil Registration Service, Data and Consent MUST Have Ability to be Rapidly Changed***

At this year’s Davos meeting, a statement was made ‘[Think about it: The pace of change has never been this fast, yet it will never be this slow again.](#)’ As the pace of technological change increases, it results in today’s best security solution becoming tomorrow’s turd. Thus, there is no “golden identity, data and trust solution”.

Therefore, the papers constantly refer to the need to create a flexible legal framework for identity, data and consent. When technology renders useless the old system components, the laws/regulations must be able to be relatively quickly changed, globally. An example is [quantum computing](#).

### ***Global Laws, Global Implementation, Global Enforcement***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” has a section “Global Principles Requires Global Implementation’ where it examines the current poor state of successful cybercrime prosecution of 5%. It will likely worsen with the incoming tsunami waves of gigabits of personal data being generated every second.

Huntington Ventures Ltd.  
The Business of Identity Management

To mitigate the risk requires global laws, with global implementation with global enforcement. Without global enforcement, the new age laws and regulations for identity, data and consent are useless. It will result in a citizen living in a non-private world without any privacy and little legal tools to fight it.

***Legal Identity Information Must be Stored in Data Centres Which Are EMP/HEMP Proof***

The paper “[When Our Legal Identity Trust Goes “Poof!”](#)” discusses the 1 in 8 chance, this decade of a sun geomagnetic disturbance (GMD) and also the potential impact of a high-altitude electromagnetic pulse (HEMP) event. It lays out recommendations to store legal identity data in GMD/HEMP proof data centres.

***New Age Tsunami Wave Requires Securing the Grid***

The paper “[Policy Principles for AI, AR, VR, Robotics & Cloning - A Thought Paper](#)” section “AI, AR, VR, Identity and Data Require Secure, Highly Available Electrical Grid”, discusses the increased risk of digitization relying upon a secure, highly available grid. Thus, all jurisdictions around the planet MUST ensure their electrical grid is resistant to EMP/HEMP events as well as secure from cyber-attacks.

***New Age Civil Registration System Should be Immune from Corrupt Officials and Administrators***

The paper “[“Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet](#)” section ‘New Age Civil Registration System Should be Immune from Corrupt Officials’ describes why the new age civil registration service must be designed to mitigate risk from corrupt officials and administrators

***New Age Civil Registration System Business Processes Risks Must be Mitigated***

For each new age civil registration process, all the potential attack vectors MUST be mapped and then risk mitigation measures designed, implemented and tested.

***AI Should be Used to Continuously Test Technical System and Business Processes in New Age Civil Registration System***

AI should be used to continuously test the new age civil registration service’s technical system and business processes.

***The New Age Civil Registration Services Security Architecture MUST be public***

As open source software has shown, the publishing of the code actually strengthens overall security long-term because it can be debated and tested. This same philosophy MUST be used with the security architecture for the new age civil registration service.

***[New Age Civil Registration System Can be Used for Emergency Response Identification](#)***

The paper “[“Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet](#)” section ‘New Age Civil Registration System Can be Used for Emergency Response Identification’ discusses how the new age civil registration system can be used to assist in emergency response.

***[Ensuring Enforcement of Identity, Data and Consent in at all Locations on the Planet](#)***

The paper “[“Where Shit Happens” Deploying AI, AR, VR, Robotics, Identity, Data & Consent in Challenging Parts of the Planet](#)” section ‘Ensuring Enforcement of Identity, Data and Consent in at all Locations on the Planet’ discusses the requirement for the system to be enforceable at all locations on the planet.

## Summary

Yes, it's complex. The new age architecture is now a little tweak and twiddle of existing systems. Why? The incoming technological tsunami waves will sweep aside our existing protection from old identity, data and consent laws.

Many people reading this will be likely thinking, there is no way jurisdictions are going to agree to completely rethink their existing identity, data and consent laws, let alone sync them up with other jurisdictions. They are both right and wrong.

They're right, today, there isn't the political will to rapidly adopt identity, data and consent law changes. Therefore, the strategy is to first focus on areas where there will likely be industry and government agreement to implement some changes. Robotics is the top of the list. Why?

The planet is creating millions and then billions of them, both virtual and physical. They are now beginning to interact with humans, enterprises and other robots. It creates legal civil and criminal liabilities. Thus, the robots need to be legally identified. As this and the other 20 papers show, it requires a new age civil registration service.

Next is children's identity and data protection. Who will be one of the first user groups to adopt the new AI/AR/VR/physical environment technology? Kids. Whose identity and data will be at risk? Kids. Who will now be able to use the technology and do things once allocated only to adults? Kids.

Thus, the next step is to begin educating people, planet-wide, about the requirement to have new identity, data and consent laws to protect kids. It won't happen overnight BUT IT WILL OCCUR.

I have a premise many different industry segments, particularly retail entertainmen, healthcare and education will want to assist in creating new global identity, data and consent laws. Why? They want to operate on a level playing field while mitigating their risks and liabilities. Without new age identity, data and consent legal frameworks, they will become hampered in rapidly growing without increasingly large legal and financial risks.

**The incoming technological tsunami waves are already beginning to lap our shores. Within 2-5 years they will mostly be here. If we do nothing, that's when people will wake up realizing they live in a "Non-Private" world.**

**Now is the time to begin the process of legally getting ourselves ready for this. We need to build new legal identity, data and consent dikes to channel the incoming technical waters.**

Huntington Ventures Ltd.  
The Business of Identity Management

**About the Author**

Guy Huntington is a veteran 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."

