



Extended Overview

Version 0.9

Jimmy J.P. Snoek
Business Development Lead

Tykn B.V.
Bargelaan 200
2333 CW, Leiden
The Netherlands

+31 6 86060666

Last updated: February 20, 2018



Table of Contents

1. Introduction	3
1.1 Company Background	3
Tykn History	3
The "Tykn" Name	4
Awards and Achievements	4
2. Key Issues	5
3. The Solution	6
3.1 Solving The Key Issues	6
Open-Source APIs	7
3.1.1. Key Issue #1: Paper-based Identification	7
In Africa	7
In St. Martin	8
In The Netherlands	8
Electronic Crime	8
Touching on EU Regulation	9
The eIDAS Regulation	9
General Data Protection Regulation (GDPR)	9
3.1.2. Key Issue #2: Lack of Resilience in Identifying Documents	10
3.1.3. Key Issue #3: Insufficient Knowledge of Blockchain/DLT	10
3.2 Pricing Strategy	10
4. Resources	11
Appendix A: A Sovereign Identity Chain	12
Appendix B1: Tykn Team Bios	13
Toufic "Tey" Al Rjula - CEO & Co-founder	13
Khalid Maliki - COO & Co-founder	13
Bas van Ooyen - CTO	13
Jimmy J.P. Snoek - Business Development Lead	13
Richard A. Kraaijenhagen - Product Director	14
Evan Yap - Community Manager	14
Appendix B2: Tykn Advisors	15
Dr. Moe Levin	15
Marloes Pomp	15
Herman Lohman	15
Steven Gort	15
Appendix C: Tykn in the Spotlight	16
Dutch Media Coverage	16
International Media Coverage	16

1. Introduction

First of all, we would like to thank you for your interest in the work of **Tykn**, delving into what we feel is an important subject, with equally important problems that we are looking to resolve. Following are some background information of **Tykn**, an explanation of the key issues we have identified so far, and the way we will be resolving them, interpreted mostly in layman's terms, since both the key issues and our proposed solutions are technically complex matters (the latter even more so than the former).

As such, we have tried to summarise our current and future work within **Tykn** and the **Tykn Labs Foundation**, without treading too much into overly technical details, which we feel would blur the overall message. However, if this is something you find yourself interested in, we would be more than happy to provide it to you!

1.1 Company Background

Tykn History

In 2012, [Toufic "Tey" Al Rjula](#) discovered that he is, in fact, an "invisible man". On his Dutch driver's licence, you will not find that he was born in a city such as "London", "Berlin", or "Amsterdam". Instead, he is declared as being "Unknown". This is because Tey was born in Kuwait to Syrian parents, during the gulf war, when the birth registries were destroyed en masse. As such, he does not have a birth certificate, and even if copies were to exist, neither he, nor the issuing authority could possibly verify it.



In 2014, he started his asylum application in a refugee camp in the Netherlands, where he was forced to move after his work permit of five years was terminated. Here, for two years, he felt the pain of thousands of Syrian refugees unable to verify the authenticity of their documents. On top of this, many of these refugees had lost other important documents such as land titles and academic certificates on the road of refuge. By the end of his stay, he had met more than 1000 invisible men, women, and children.

A third of the refugees in Europe are children, and while they are lucky to get documented, hundreds of thousands in Syrian Refugee camps do not have birth certificates, and newborns in camps are unable to complete the birth registration process, due to economic, geographical and complex administrative barriers. Ultimately, the experiences the refugees shared with Tey in the Dutch refugee camp regarding the hardships they suffered as "invisible people" gave him the inspiration and motivation to found **Tykn**, together with social entrepreneur [Khalid Maliki](#) (see **Appendix B1** for Executive Bios), in order to work on providing self-sovereign identity to all.

The "Tykn" Name

The first ever Dickin Medal was bestowed upon a recipient with the name "Tyke", serving for Britain's Royal Air Force. Tyke was a pigeon, in a team consisting of two other pigeons that delivered messages contributing to the rescue of ditched aircrew during WW2.



Inspired by their ability to operate in the hardest conditions and carry valuable information related to life and death, across borders, we named our company "**Tykn**". Coincidentally, in Japanese, "taiken" translates to "supreme authority", which is essentially what the blockchain is; everything you register is there forever, indiscriminately.

Awards and Achievements

Shortly after our inception in 2016, we won [Startup Weekend Utrecht](#), an intensive 3-day hackathon powered by Google, where we managed to develop a working prototype to digitally verify and authenticate official documents by leveraging the bitcoin blockchain.

This victory ultimately led to **Tykn** being chosen to pitch for [Rockstart](#), a startup accelerator based in Amsterdam, where **Tykn** was chosen out of 1100+ applicants (alongside 9 other startups) to join the [Rockstart Web & Mobile Accelerator](#).



At present time, **Tykn** has been declared the winner of [The Spindle Innovation Awards](#) (powered by Partos and Accenture) with our **Project ZINC** (Zero INvisible Children) initiative and has reached the semi-finals of the "Safe & Secure Society" track within the [Accenture Innovation Awards](#).

2. Key Issues

So far, we have identified **three (3) key issues** that we are seeking to resolve:

1. **Paper-based identification** leading to costly paper trails, fraud and low interoperability of vital records, not to mention the 230 million invisible children around the globe, and the lack of both social and financial inclusion amongst vulnerable populations.
2. **Lack of resilience in identifying documents** due to heavy centralisation leading to weakened communities when struck by man-made or natural disasters.
3. **Insufficient knowledge of Blockchain/Distributed Ledger Technologies** within the government, municipalities and (non-)governmental organisations.

Even though the key issues are listed in order of importance, counterintuitively, they will have to be solved bottom to top, with all **Key Issues** admittedly having a large overlap in the roadmap. The reason for this is mainly because, firstly, without sufficient education within this most technical subject at hand, it will be difficult to spotlight the importance of our solutions to regulators and key influencers, in order to help in shaping the desired and required regulatory framework for the distributed ledger ecosystem to really flourish.

3. The Solution

3.1 Solving The Key Issues

In order to solve the identified key issues, we propose a solution that leverages a public permissioned distributed ledger platform called **Hyperledger Indy** (which finds itself right in between purely permissionless ledgers such as Bitcoin, and purely permissioned ledgers such as **R3's Corda**, as a hybrid) in the form of the **Sovrin Network**, through what is called the **Sovrin Trust Framework [STF]**.

However, even though our main focus is on leveraging **Hyperledger Indy** at this point in time, we are still very much "Blockchain agnostic" in that we are always looking at different ledgers and platforms that could provide a better foundation for our solution; these include **Rootstock (RSK)** [RSK] and **Ethereum's** proposed identity standard **ERC-725** [ERC].

With regards to becoming part of the **Sovrin Trust Framework**, we have (legally) established the "**Tykn Labs Foundation**" (previously "**Sovereignty Foundation**"), which shall be a **Sovrin Entity** within the framework, as well as a **Founding Steward [FST]**, providing open-source APIs which **Tykn** will develop and then use to build the tools to be used by financial institutions and (non-)governmental organisations (see **Appendix A** for an infographic showing the entire chain).

As it stands, all key issues are related in that each one can be solved by implementation of a decentralised digital identity; one that **Tykn** can provide by leveraging the APIs provided by the **Tykn Labs Foundation**, which are linked to the **Sovrin Network**. The reason for using a foundation to link to the network and providing the APIs (as opposed to operating directly through **Tykn**) is for three important reasons:

1. If APIs were provided through the commercial entity **Tykn** and linked as such to the **Sovrin Network**, a hypothetical bankruptcy would be an incredible liability to any one client using the APIs, since this would cause the entire structure to collapse together with the commercial entity. Adding the fact that this commercial entity is a startup, and you are left with a grand majority of (non-)governmental institutions unwilling to take such a large risk. This is the reason why the APIs and link to the **Sovrin Network** shall be made under the **Tykn Labs Foundation**: even if **Tykn** were to go bankrupt, no negative effects would be experienced on the client-side of the chain.
2. The **Tykn Labs Foundation** shall be used as a platform for discussion, awareness and education among regulators and key influencers, with all API and Sandbox code being free and made available open-source by **Tykn**, in order to stimulate and incentivise use of the **Sovrin Network**. This is an important point, because a larger use of the **Sovrin Network** through our APIs means a larger scope of influence on the network for the **Tykn Labs Foundation**. Having a larger scope of influence on the network has the implication of vastly reduced latency for reading and writing of data. Also, once mature, it means costs can be covered by a slice of revenue from the Sovrin Foundation, the not-for-profit organisation governing the **Sovrin Network [SOV]**.

3. Political and notarial involvement is key in shaping an environment where growth of the **Sovrin Network** and widespread adoption of the **Tykn Labs Foundation** APIs can be facilitated. We argue that realising this call for involvement through a non-profit foundation instead of a commercial entity will be more effective due to the open-source nature of the code developed by the foundation, which would ultimately benefit all stakeholders, creating a greater incentive to participate.

Open-Source APIs

The open-source, free software APIs built by **Tykn** are categorised as follows: firstly, a "Proxy API" is linked to the **Sovrin Network**, then OAuth2 compatibility is provided through an easy-to-use "Authentication API", and a separate "Claims API" serves as a database for **Sovrin** claims; this "Claims API" is also the API to be used by third-parties such as governmental organisations, financial institutions, etc. for verification purposes. Lastly, a fourth API provides facilitation for the transition of current legacy systems to our fully decentralised solution.

In turn, on the front-end, there are the administrative tools to be used by administrators (third-parties) to access the "Claims API", as well as the OAuth2 login and authentication pages, and finally, **Tykn's ANA App** for the end user.

3.1.1. Key Issue #1: Paper-based Identification

In Africa

Not unlike our CEO, there are millions of people who, besides having lost their birth certificate, have lost all forms of identifying documentation through either man-made or natural disasters. In fact, 41% of the total population of Africa, or 502 million people, do not have access to a proof of legal identity [ID4D]. Without any form of identification, these people do not have the same access to a social safety net, public services or financial inclusion as non-vulnerable people do; not to mention how it places children at risk of child trafficking, child labour and sexual exploitation.

By giving these people a proof of identity, we can start building more resilient communities, include them financially, and increase efficiency of distribution of aid in case a humanitarian crisis strikes. The latter being something we are currently focussing on together with our partners at **The Netherlands Red Cross**, in the form of pilots and projects for **Cash-Based Assistance (CBA)**, additional to our active work in developing a resilient identity management system for both vulnerable and invisible people in countries with low smartphone penetration and digital connectivity [NLRC]. Details of the projects will be published after completion.

In St. Martin

On average, Saint Martin is hit by a hurricane every 2.79 years, with Hurricane Irma in 2017 being one of the most destructive to date, as it left 95% of the island destroyed with 10 deaths and over 50 people injured [HRCN]. In the wake of this devastating event, many inhabitants of St. Martin found to have been stripped of any tangible proof of their identity. As smartphone penetration and digital connectivity is significantly higher in St. Martin compared to most Sub-Saharan countries, leveraging this by allowing the registration of a Donor/Practitioner/Beneficiary Identity through **ANA** is a logical next step in building a more resilient identity infrastructure. At this point in time, we are laying the infrastructure for this project, in order to kickstart implementation on location at the end of Q2 2018.

In The Netherlands

Whilst **ICTU** has already led The Netherlands towards digitised identity in the form of DigiD, this can only be used for governmental and healthcare service matters. Also, the way DigiD is set up now, it is still very much a centralised digital service, with all safety concerns that come with it, making it sensitive to hacking and phishing, and thereby also identity fraud [DIG]. For this very reason, we are discussing a potential collaborative effort with **ICTU** to tackle the issue of paper-based identification here in The Netherlands.

Despite the efforts of **ICTU** in developing DigiD, there is still a lot to be done in The Netherlands. For instance, current regulations disallow us to issue a digital birth certificate. However, in order to circumvent this regulation we have decided to employ a hybrid model for incorporating birth registration into the tools provided to the government/municipalities, where birth certificates are still issued on paper, but a digital copy shall also be made available within **ANA**.

Electronic Crime

The CMI has estimated that reports of identity fraud have doubled in The Netherlands since May 2016, with the Dutch Central Bureau of Statistics (CBS) estimating that 1 in 9 Dutch people have been affected by electronic crime at some point. Further research by the TNO in 2015 also made a strong case for a privacy paradox being present in The Netherlands, where a grand majority showed to care deeply about privacy, but did not reflect this in their actions at all. The overall consensus was that there is still a significant knowledge gap with regards to awareness and education surrounding privacy matters.

Touching on EU Regulation

The eIDAS Regulation

Apart from compliance with Dutch laws and regulations, we are also strongly considering EU regulations since the introduction of the new **REGULATION (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market [EUR]**(also called the **eIDAS Regulation**), which outlines several important aspects and conditions to the future of identification that we are currently seeking to fulfil. Whilst the following is just merely the tip of the iceberg, it does give a good overview of why our proposed solutions are in line with the views of the European Commission on electronic identity; we have found that some of the most important requirements set by the European Commission are met by our proposed model for digital identification.

Firstly, a fundamental condition to electronic identification is the mutual recognition and interoperability between Member States, where the framework is entirely technology-neutral. Seeing as the **Sovrin Network** is built upon **Hyperledger Indy**, this is in direct accordance with these conditions, since mutual recognition and interoperability of data is embedded in the very nature of this DLT. Furthermore, the fact that DLTs are entirely decentralised also means it would be technology-neutral by design when used for electronic identification by Member States.

General Data Protection Regulation (GDPR)

The **General Data Protection Regulation (GDPR) (Regulation (EU) 2016/679)** [GDPR] establishes one single set of rules across Europe to enable individuals to better control their personal data and will cause the repeal of **Directive 95/46/EC** when enforced on May 25, 2018.

Most interesting for us are revisions to the requirements of "implementing appropriate technical and organisational measures" for controllers and processors of data, concerning security actions "appropriate to risk", such as:

- Pseudonymisation and/or encryption of personal data.
- Ability to ensure ongoing confidentiality, integrity, availability and resilience of systems and services process personal data.
- Ability to restore the availability and access to data in a timely manner in the event of a physical or technical incident.

Through the use of **Hyperledger Indy** within the **Sovrin Network**, personal data will never have to be stored on the ledger, not even in encrypted form. Instead, the information is anchored on the ledger so that there is proof it existed on a certain day; this essentially makes the leakage of personal data by means of hacking impossible.

Since our solution is in strict alignment with all new requirements set by the GDPR, and fines for non-compliance with the new regulation will substantially increase (including penalties equal to the greater of €20 million or 4% of global gross revenue), we argue that our tools will become even more valuable to our clients once the GDPR will be enforced.

3.1.2. Key Issue #2: Lack of Resilience in Identifying Documents

The resilience of identifying documents (that is, the resistance of these documents against man-made or natural disasters, fraud, and permanent loss), while closely related to their paper-based nature, should be treated as a separate issue; one that could potentially be resolved before resolving paper-based identity as a whole, since we can already start to make identifying documents more resilient within the confines of our current identity infrastructure, which already finds itself caught between analogue and digitised systems.

One way to overcome the issue of resilience in identifying documents is by storing them decentrally with client-side encryption and sharding of files using **IPFS**, **Storj**, or any other decentralised storage solution (such as **Oyster Pearl**, **Siacoin** or **FileCoin**). However, at this point in time, there does not seem to be an elegant or practical solution to bring this to scale yet, especially since the digitised versions of these valuable documents have to be highly secure, easy to retrieve for authentication purposes, and have properties that disallow data correlation (i.e. you cannot derive data point C when you have data points A and B, derive data point A when you have B and C, or derive data point B when you have A and C), thus promoting pseudonymity, anonymity and privacy.

Between further current privacy issues related to these decentralised storage solutions (e.g. anyone in possession of the corresponding hash being able to retrieve the files), and latency issues (speed of file retrieval should be on par with present centralised storage solutions), using decentralised storage solutions for identifying documents does not seem to be feasible until these issues are resolved, at which point it would become a most potent tool for this particular job indeed.

As an alternative, the **Sovrin Network** never stores any private information on the ledger, but instead uses pseudonymous DIDs (Decentralised IDentifiers), pseudonymous public keys and agent addresses to ensure that the exchange of private data happens strictly off-ledger, as laid out in the latest **Sovrin Foundation** white paper “Sovrin: A Protocol and Token for Self-Sovereign Identity and Decentralized Trust” [SSI]. By linking the **ANA Ecosystem** to the **Sovrin Network** we can allow NGOs and governments to start reinforcing identity infrastructures in the countries that need it most; something which we shall start testing in Africa and the Caribbean this year.

3.1.3. Key Issue #3: Insufficient Knowledge of Blockchain/DLT

We have come to realise that solely providing the necessary tools to transform an outdated system is simply not enough, with one of the main obstacles still being regulatory pushback. Hence, we are actively in pursuit of provoking change from the inside out, by looking to collaborate with municipalities and (non-)governmental organisations to help shape the best possible regulatory framework and political environment for an eventual restructuring of the system.

However, in order to realise this, the **Tykn Labs Foundation** will be key in absolving the lack of knowledge amongst regulators and key influencers within the government, hosting discussion panels and Blockchain/DLT workshops/masterclasses to inform and educate to our best capabilities. **Tykn B.V.**, on the other hand, will be used for private consultation within financial institutions and (non-)governmental organisations regarding specific problems.

3.2 Pricing Strategy

Without giving away too many details this early in establishing a final price model, we can say that we have settled on a licensing fee structure for the ANA tools, with added monthly software support fees, and a yearly payment model for (non-)governmental organisations wanting to leverage these tools delivered by **Tykn** in further digitising identity.

With regards to the pricing model for pilots, it entirely depends on the nature of the pilot in terms of mutual benefits to be yielded from the pilot, the run-time of the pilot and FTE needed to successfully complete the pilot. Hence, any such case will have to be negotiated on an individual basis. It is also to be said that we are always looking for new opportunities (particularly in the form of pilots) in order to further refine both our tech and business model.

4. Resources

[DIG] "Versleuteling van DigiD-gegevens voldoet niet aan eisen":

<https://www.security.nl/posting/515683/Versleuteling+van+DigiD-gegevens+voldoet+niet+aan+eisen>

[ERC] "Ethereum Request for Comment: Identity #725"

<https://github.com/ethereum/EIPs/issues/725>

[EUR] "REGULATION (EU) No 910/2014 on electronic identification and trust services for electronic transactions in the internal market":

http://eur-lex.europa.eu/legal-content/EN/LSU/?uri=uriserv:OJ.L_.2014.257.01.0073.01.ENG

[FST] "Becoming a Sovrin Steward":

<https://sovrin.org/wp-content/uploads/2017/04/Becoming-a-Sovrin-Steward.pdf>

[GDPR] "REGULATION (EU) 2016/679 of the European Parliament and of the Council of 27 April 2016 on the protection of natural persons with regard to the processing of personal data and on the free movement of such data, and repealing Directive 95/46/EC (General Data Protection Regulation)"

http://ec.europa.eu/justice/data-protection/reform/files/regulation_oj_en.pdf

[HRCN] "Hurricane City: Saint Martin":

<http://www.hurricanecity.com/city/saintmartin.htm>

[ID4D] "World Bank: Identification for Development Global Dataset":

<https://data.worldbank.org/data-catalog/id4d-dataset>

[NLRC] "510: CBA: Cash-Based Assistance":

<https://www.510.global/the-future-of-cash-based-assistance-2/>

[PWC] "The Future of Onboarding":

<http://www.pwc.com/il/he/bankim/assets/pwc-the-future-of-onboarding.pdf>

[RSK] "What is Rootstock (RSK)?"

<https://www.cryptocompare.com/coins/guides/what-is-rootstock/>

[SOV] "The Inevitable Rise of Self-Sovereign Identity: A whitepaper from the Sovrin Foundation":

<https://sovrin.org/wp-content/uploads/2017/06/The-Inevitable-Rise-of-Self-Sovereign-Identity.pdf>

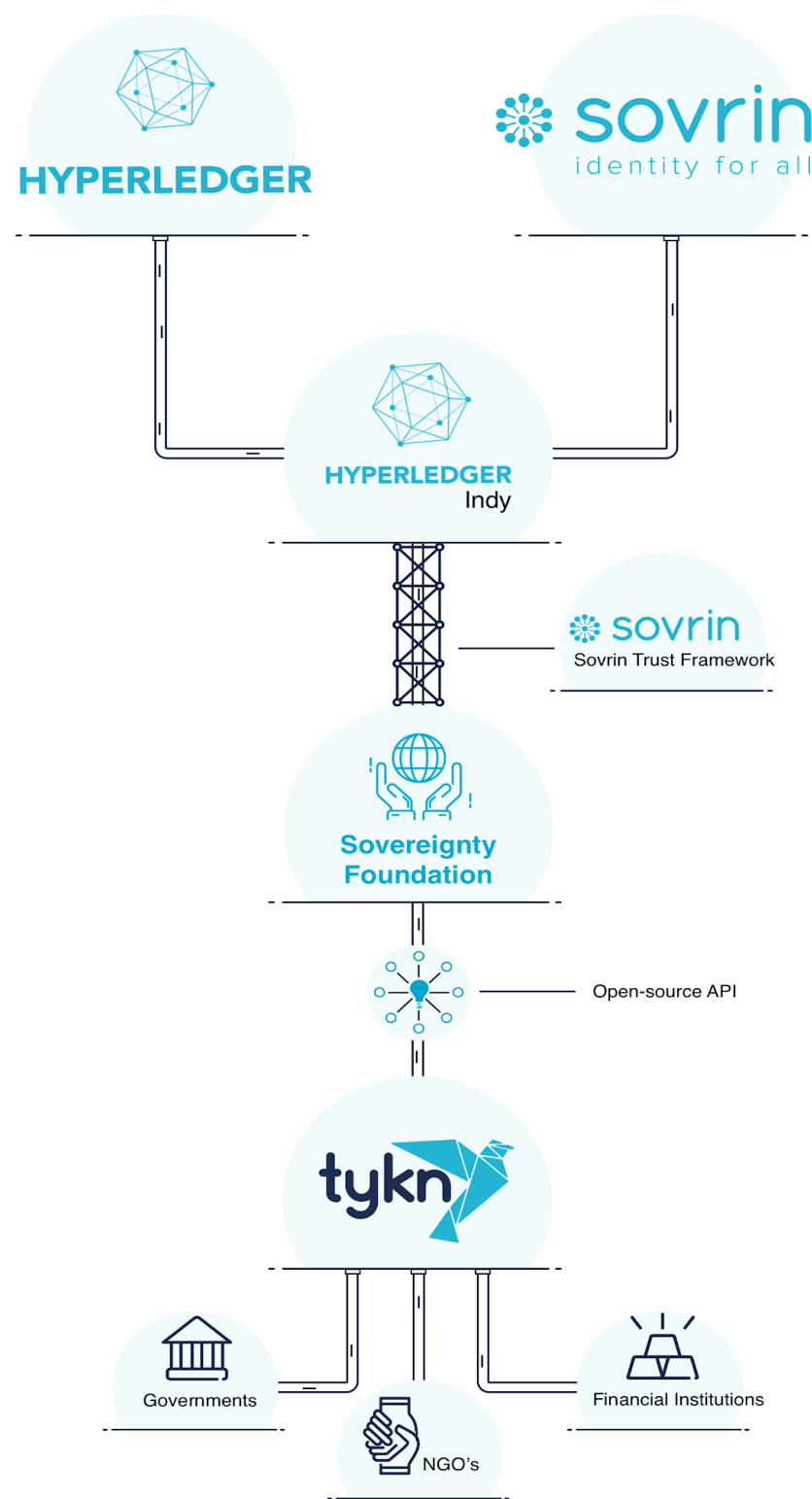
[SSI] "Sovrin: A Protocol and Token for Self-Sovereign Identity and Decentralized Trust":

<https://sovrin.org/wp-content/uploads/Sovrin-Protocol-and-Token-White-Paper.pdf>

[STF] "Sovrin Provisional Trust Framework":

<https://sovrin.org/wp-content/uploads/2017/06/SovrinProvisionalTrustFramework2017-03-22.pdf>

Appendix A: A Sovereign Identity Chain



Appendix B1: Tykn Team Bios

Toufic "Tey" Al Rjula - CEO & Co-Founder

"After experiencing the financial crash in Dubai in 2008, Tey moved to The Hague, where he became a Blockchain Senior Analyst for wikistrat.com, as well as a Bitcoin miner. Despite never having lived in Syria, Tey was forced to move into a refugee camp for two years due to his Syrian roots, after his work permit expired. This ultimately became his main motivation behind solving the "paper-based identity" problem; consequently Tey co-founded Tykn. Besides fulfilling his duties as CEO of Tykn, Tey is also still active as a public speaker and educator on digital currencies and Blockchain technology, and is a candidate for a MSc Digital Currencies at the University of Nicosia."



Khalid Maliki - COO & Co-Founder

"As one of the few UX Designers certified by the Nielsen Norman Group in the Netherlands, Khalid co-founded Tykn together with Tey Al Rjula in 2016 with over seven years of experience, after having worked both as UX Researcher for the Ministry of Interior and Kingdom Relations in The Netherlands, as well as having worked as freelance UX Designer for multiple large clients, including 'Helloprint'. Apart from this, Khalid also established himself as an award-winning musician, before obtaining his Bachelor Communication & Multimedia Design in 2010."



Jimmy J.P. Snoek - BizDevLead & Co-Founder

"Jimmy J.P. is a business developer, public speaker and social entrepreneur, currently residing in Amsterdam, The Netherlands. As an evangelist of data privacy and higher control of personal data, he joined Tykn as a co-founder in April 2017, following a period of advisory work surrounding distributed ledger technology and business development, after which he became an integral part in scaling the company to where it is today."



Evan Yap - Head of Research

"Evan Yap is a rare technocrat who sheds light on Blockchain from a humanitarian perspective. With an academic background as research fellow and experience as lecturer, Evan leads Tykn's research operations, as well as the Tykn Educate initiative".



Appendix B2: Tykn Advisors

Dr. Moe Levin

"Dr. Moe Levin is the Chief Executive Officer (CEO) of Keynote, an investor in high-tech startups, and an advisor to governments, regulators, banks, and venture-backed companies.

Some of the projects he has been involved with include The Global Blockchain Council in Dubai (2015 - present) , the harmonized VAT treatment of Bitcoin (2013), The OECD Working Party 9 (2013-2014).

Moe is also the Co-Founder of the first accredited Blockchain Academy, an early investor in RSK Labs, Labfresh, Dropbox, and others. Prior to founding Keynote, Moe was responsible for launching a venture-backed startup in Europe which raised \$30m from Richard Branson, Index Ventures and others."



Marloes Pomp

"Marloes Pomp has a profound affinity for building firm connections between the government and new technologies. Her main focus is on solving major social issues by using technologies such as Artificial Intelligence, IoT, Bots and Blockchain. Currently, Marloes is the project leader of thirty blockchain projects within the Dutch Government, of which an overview can be found on blockchainprojects.nl. After having done several rounds of pilots in the Netherlands, she is now on her way to helping the pilots reach the next level. In September 2017, Marloes will be starting an international pilot round. Furthermore, Marloes also provides many training programmes, (including the ICT Masterclass for top officials) and regularly speaks at international conferences."



Herman Lohman

"Herman Lohman advises on setting up investment companies and joint ventures, with a particular focus on the international market and the most challenging, complex and high profile matters. Herman graduated from Leiden University in 1989. In 1999, he successfully completed the Grotius post-graduate course in real estate law. Furthermore, he is a lecturer at the Amsterdam School of Real Estate and a member of the Dutch Association of Real Estate Lawyers, as well as the Dutch Commercial Law Association."



Steven Gort

"Steven Gort is a visionary getting the message of self-sovereignty (individual) and self-governance (in compliance with rule of law) across within Dutch Government through ICTU. Steven is also a sponsor of the Reinventing Government track and co-author of the ICTU whitepaper on blockchain."



Appendix C: Tykn in the Spotlight

Dutch Media Coverage

RTL Z: "Deze Syriër bouwt een geboorteregister op de blockchain".

<https://www.rtlz.nl/persoonlijk/carriere/deze-syrier-bouwt-een-geboorteregister-op-de-blockchain>

TEDxYouth: "Tykn".

<http://tedxyouthutrecht.nl/2016/12/05/startup-opzetten-weekend/>

https://youtu.be/ymrNcZ_bofg

International Media Coverage

Blockchain Innovation Conference: "Interview with Toufic Alrjoula, Tykn | Blockchain Innovation Conference #BIC17".

<https://blockchaininnovationconference.com/tykn-brings-trust-and-privacy-to-birth-certificates-by-putting-it-on-the-blockchain/>

The Spindle: "Ten contestants to continue The Spindle Summer Labs" (featuring Tykn's Project ZINC).

<https://thespindle.org/2017/06/13/the-ten-participants-of-the-spindle-summer-labs/>

The Spindle: "Birth registration: Project Zero INvisible Children" (featuring Tykn's Project ZINC).

<https://thespindle.org/project/zinc/>

Iso-20022.ch: "World Web Forum: Tey El-Rjula on Blockchain, his vision and the solution" (from when Tykn was still called 'Bitnoxx').

<https://www.iso-20022.ch/info-to-go/news/artikel/world-web-forum-tey-el-rjula-ueber-die-blockchain-seine-vision-und-die-loesung/>

Medium: "Abdullah Moai: The Blockchain, Refugees and Digital Certificates".

<https://medium.com/@AbdullahMoai/blockchain-and-refugees-2b281a3bef80>

Techstars: "From business idea to successful startup".

<http://www.techstars.com/content/community/business-idea-successful-startup-win-startup-weekend-utrecht/>