SAP Innovation Awards 2019 Entry Pitch Deck

eZTracker – Keeping us safe with every scan

Zuellig Pharma

THE BEST RUN SAP

Company Overview

Zuellig Pharma

eZTracker – Keeping us safe with every scan

Zuellig Pharma is one of the **largest healthcare** services **groups** in **Asia** and our purpose is to **make healthcare** more **accessible**. We provide world-class distribution, digital and commercial services to support the growing healthcare needs in this region. Zuellig Pharma was started almost a **100 years** ago, and has grown to become a **US$12 billion** business covering **13 markets** with over **10,000 employees**. Our people serve over **350,000 medical facilities** and work with over **1,000 clients**, including the **top 10 pharmaceutical** companies in the **world**.

The **Zuellig Health Solutions Innovation Centre** was developed as separate start-up **incubator** within the company, to find **innovative ways** of **improving access** to **healthcare through data**, **digital** and **disease management**. Access can be addressed from a variety of perspectives, from access to **medication** or care, to access to **insights**, **quality** and **authenticity**. With this **entrepreneurial mindset**, the team has developed data insights **platforms** and **AI-powered predictive analytics** capabilities to provide **transparency** and **optimisation** of **supply chain** activities. The Innovation Centre's contribution to the healthcare industry was recently **recognised** when it was **named IDC's Information Visionary** of the Year **2018**

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making healthcare more accessible

eZTracker – Keeping us safe with every scan

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"Quote"

"Counterfeiters are getting more sophisticated and the industry urgently needs to leverage the latest technology to fight them.

It is a natural step to harness the solutions that we have developed, working with partners like SAP, to create tools that can quickly address the problem.

That's why our teams came together to create eZTracker."

Maikel Kuijpers
Zuellig Pharma CIO & SVP Operations

Challenge

- **Counterfeit** Medicine Products are **increasingly sophisticated** & **prevalent** in the Marketplace.
  - According to the World Health Organization [WHO], **10-30%** of Medicines circulating in **Lower** & **Middle Income** Countries are **Counterfeit**.

Solution

- **eZTracker** uses **SAP Blockhain** Technology to address **counterfeit** products, **cross-border** trading, & product **recalls**
- The **Chaincode** & **Distributed Ledger** have been built on Hyperledger, with a **Smart Contract** layer & design that caters to the different **information requirements** of each **player** in the **Supply Chain**
- Massive **Parallel Processing Database Engine** is delivered via **SAP HANA** & **Mobile Application** for downstream End-Users to **scan Barcodes** of Medicine Products through the **SCP Platform**

Outcome

- **eZTracker** allows the **scanning** of **Barcodes** of **Medicine** Products from Mobile Devices**,** immediately **notifying** the **Customer**:
  - If the Product is **Genuine** or **Counterfeit**
  - Whether the Product is **Legitimately Distributed**
  - **Where** the Product was **Manufactured**
- **Fake** Products **trigger** automatic **Alerts**, notifying Manufacturers & Zuellig Pharma where the **Supply Chain** was **Breached**

Product Recall Process Timeline changes from **2 Months** to **2 Seconds**

eZTracker will **significantly** reduce the occurrence of drug **counterfeiting** and **quality excursions** in the healthcare ecosystem and supply-chain

eZtracker can be **used** by anyone involved in the Medicine Product Lifecycle, including **Doctors**, **Pharmacies**, & **Patients**!

Business Challenge & Objectives

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Challenges:

- **Counterfeit Medicines** pose a tremendous threat to patient lives, because these dangerous products could **increase resistance** to treatment & **cause** additional **illness**, **disability**, or even **death**.
- Zuellig Pharma is concerned with **increasing** reports of **counterfeit** medicines & the risk to patients, having witnessed first-hand how **current measures** to **investigate** a counterfeit product are **time-consuming** & **inefficient**.
  - To identify a potential counterfeit, the entire **supply chain** needs to be **investigated**. This manual process often takes **weeks** because of the multiple **parties** involved and because the **data** sits in many **different locations**. **Blockchain** technology can **maximize efficiency** within this process.
- Current product **recalls** have **limited reach**, mostly extending only to the **pharmacy**, or **clinic level**.
  - Total **recalls** often take **weeks**, or **months** to **implement**, with **little success**. Often, the **information does not reach patients**.
- **Counterfeiters** are becoming more **sophisticated;** Zuellig Pharma felt that the **healthcare** industry **urgently needs** to leverage the latest **technology** to fight back.
  - It is a natural step to harness the solutions developed in the Zuellig Pharma **Innovation** Centre to work with **Partners** like SAP, in order to **create** a **tool** that can quickly address the problem. That's why we came together to create **eZTracker**.
- **eZTracker** uses **Blockchain** Technology to address **counterfeit** products, cross-border **trading**, & product **recalls**.
  - eZTracker allows for **instantaneous** material **traceability**, & results in unparalleled levels of **quality control** & **compliance** to **improve patient safety**.

Objectives:

1. Create an approach for **Instantaneous Traceability** & **Provenance Identification** for **Drugs** within a particular Region
2. Significantly **reduce** the **occurrence** of Drug **Counterfeiting** & **Quality Excursions** in the **Healthcare Ecosystem** & **Supply Chain**
3. Allow all **Transaction** Points & **Interactions** between various **Stakeholders** across the Drug **Supply Chain** & Ecosystem, including Patients & Individuals, to be **tracked** & **monitored** for Drug **Authenticity** & **Quality**

Project / Use Case Details

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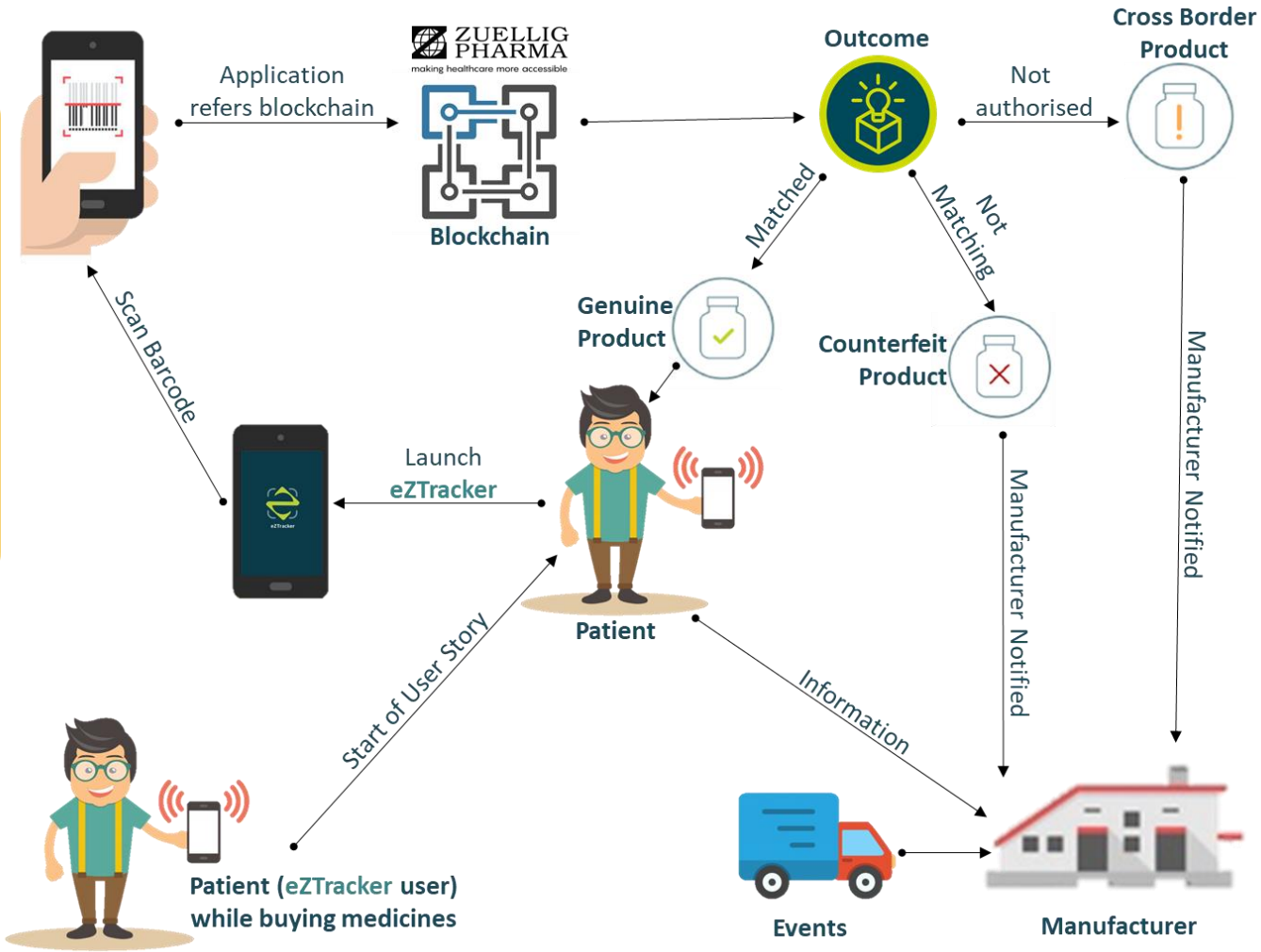
Project Scope:

- **Develop Technology** Foundations for **Blockchain** including:
  - **Smart Contracts governing** each part of the **Supply Chain**
  - Integrated **Chaincode**
  - Documentation on **node development** for participants in the **Blockchain**
  - **Database** Integration
  - **Front-end** Apple/Android **Application** & User **Interface**
- Multi-Country **Deployment** for Down-Stream Nodes across **Singapore**, **Hong Kong**, & the **Philippines**
  - (with Singapore as Zuellig Pharma Global Hub for development & coordination)
- **Adoption** by **Key Participants** in the Drug Supply Chain:
  - 1-2 drug manufacturers
  - 1-2 packaging suppliers
  - 1-2 source material providers
  - 1-2 major pharmacy chains (per down-stream market)
  - Minimum of 100 patient users
- The **eZTracker** Application is easily **accessible** for download from the App Store, or Google Play Store on **Mobile** Devices
- The **eZTracker** App can **scan Barcodes** of **Medical Products**
  - Within **seconds**, eZTracker is able to **show** if Medicine is **Genuine**, whether it is **Legitimately** Distributed, & **where** it was Manufactured
  - If a **product** is **fake**, **alerts** will be **automatically** sent to the **Manufacturer** & to **Zuellig Pharma** with instant **Identification** of where the fake product **breached** the **Supply Chain**.

Project / Use Case Details

1. Patient accesses eZTracker from Mobile Device
2. Patient scans the Product Barcode
3. Patient is instantly presented with Acceptance/Rejection of Medical Product



Benefits and Outcomes

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Business / Social

- Apart from the most important function of improving Patient Health Outcomes & Safety, **Manufacturers** will also be able to **detect** Cross-Border **Transactions** using **eZTracker**
- **eZTracker** Mobile App will provide a **communication** platform for Government **Agencies,** Healthcare **Providers** & Pharmaceutical **Companies**

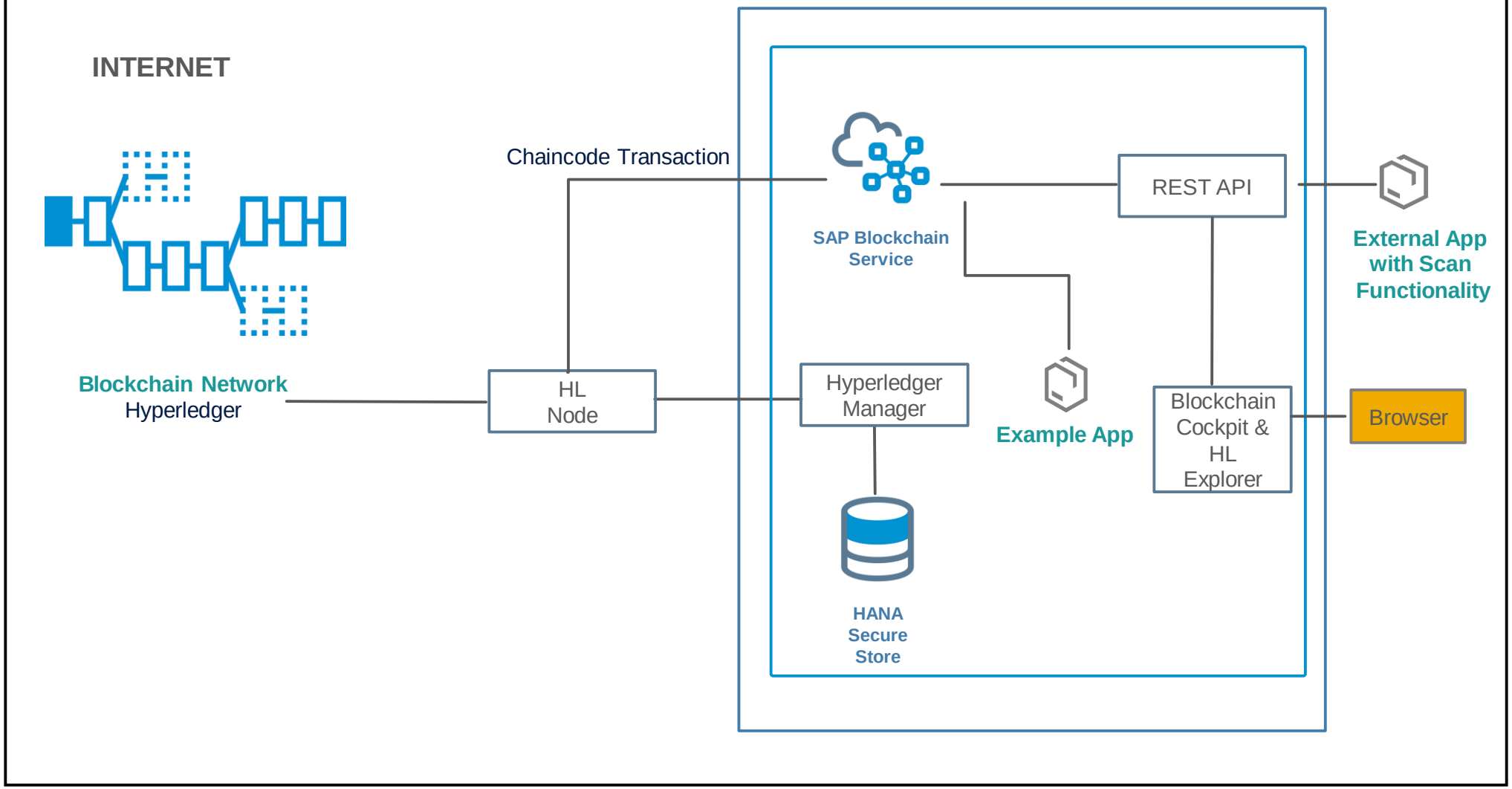
IT

- Product **Recalls** will be made **exponentially faster; eZTracker** can trigger **Real-Time Alerts** to **Patients** & **Hospitals**, while providing instantaneous information on where affected **batches** are **located** & where their components **originated** from
- eZTracker **reduces** the Product **Recall Process** Timeline from Months to **Seconds**
- eZTracker can **easily** be extended to cater for other industries with minimal investment

Human Empowerment

- For the first time, **Patients** are **empowered** to join in the fight **against counterfeits**
- **eZTracker** Mobile App will be made available to Healthcare Practitioners & Patients, so they have instant access to Product Provenance Information
- **Visibility** into the **Supply Chain** will allow Zuellig Pharma to be "**closer-to-the-ground**" & provide more **timely information** about the entry of **Counterfeits** into the **market**
- **eZTracker** will also **ensure** that **Responses** to Counterfeiting are **Geographically** Targeted

Architecture



Deployment

Date of Deployment or POC: 1st March 2019

Number of live users: 30, increasing to 1000's before the end of Q1 2019

SAP Technologies Used:

SAP Technologies	Capabilities and Support to eZTracker
HyperLedger Fabric – BlockChain as a Service offering in SCP Cloud Foundry	Leveraging the Chaincode to archive the principles of Material and Batch information for easy track and trace
SCP API Management	Leveraging the registration and exposure of API through inhouse guiding principles
SCP Mobile Service	Publishing the web content as Hybrid Android and iOS based installable app with proper security guidelines
SAP Machine Learning / Artificial Intelligence	AI and ML is being used to highlight special offers or suggest associated products to be purchased
SAP HANA	Processing and publishing of the data to the blockchain is published via Odata API's powered by SAP HANA

Server Processor: SAP Cloud Platform

Linux Distribution: NA

Emerging Technologies and Use Cases

The following Emerging Technologies and use-cases are part of the project and describe the contribution

	Technology or Use Case	Yes/No	Contribution to Project
1.	Machine Learning / Artificial Intelligence	Yes	AI and ML is being used to highlight special offers or suggest associated products to be purchased
2.	IoT	Yes	Phase II of the project is to add Sensor Data to the Blockchain and track Temperature Excursions
3.	3D printing	No	
4.	Blockchain	Yes	Cornerstone of the Development with all Providence Data stored on the Blockchain
5.	API Economy / Integrate the Intelligent Enterprise	Yes	Integration and Monetization of the Solution
6.	Cloud Native / Event Based Architectures	Yes	SAP HANA and Scanning Event
7.	Extending the digital core with SAP CP / ABAP in SAP CP	Yes	Mobile development for end user scanning app
8.	SAP Leonardo Application (extending SAP application, using Industry Innovation Kits or result of Design Thinking workshop)	No	