

HANDEX

Technology Roadmap

October 2018



High-Tech Gründerfonds



TECH STACK STATUS QUO DETAILS

We have a clearly defined and state-of-the-art tech-stack, ready for API-integration with banks, ECAs and credit agencies

Frontend



Backend



Database



Server



We are integrating with EH and Sutor Bank; 2019 we will focus on KYC / Risk model setup and 3rd party integration; long-term IoT and Blockchain use cases can be exploited

Status Quo – MVP

2018

Frontend: Java, Rails, JQuery

Backend: Java, Rails

Database: PostgreSQL

Server: Heroku

EH integration

- Alignment of Click & Cover process
- API-integration for data transmission

Sutor Bank

- API integration for core banking / payments, MaRisk credit application

Commercial traction

2019

BI / Loan Booking

- Tableau, Exasol, Qlikview

KYC

- Data ingestion from docs via OCR (e.g. Omni, Microsoft Computer Vision, Taggun, Google Cloud Vision)

- Advanced Analytics (Java)
 - Scraper
 - Document similarity scan
 - AML keywords checking

- Using MongoDB for JSON data

- ID verification of relevant natural persons, e.g. IDNow or Gemalto

Risk Model

- R or Python
- Exasol
- AI models on SparkCluster
- Use supervised learning algorithms (Random Forest, Ensemble Methods etc.)

Securitization / additional Banks

- Java for API-calling
- Launching HandEX APIs

External Services, e.g.

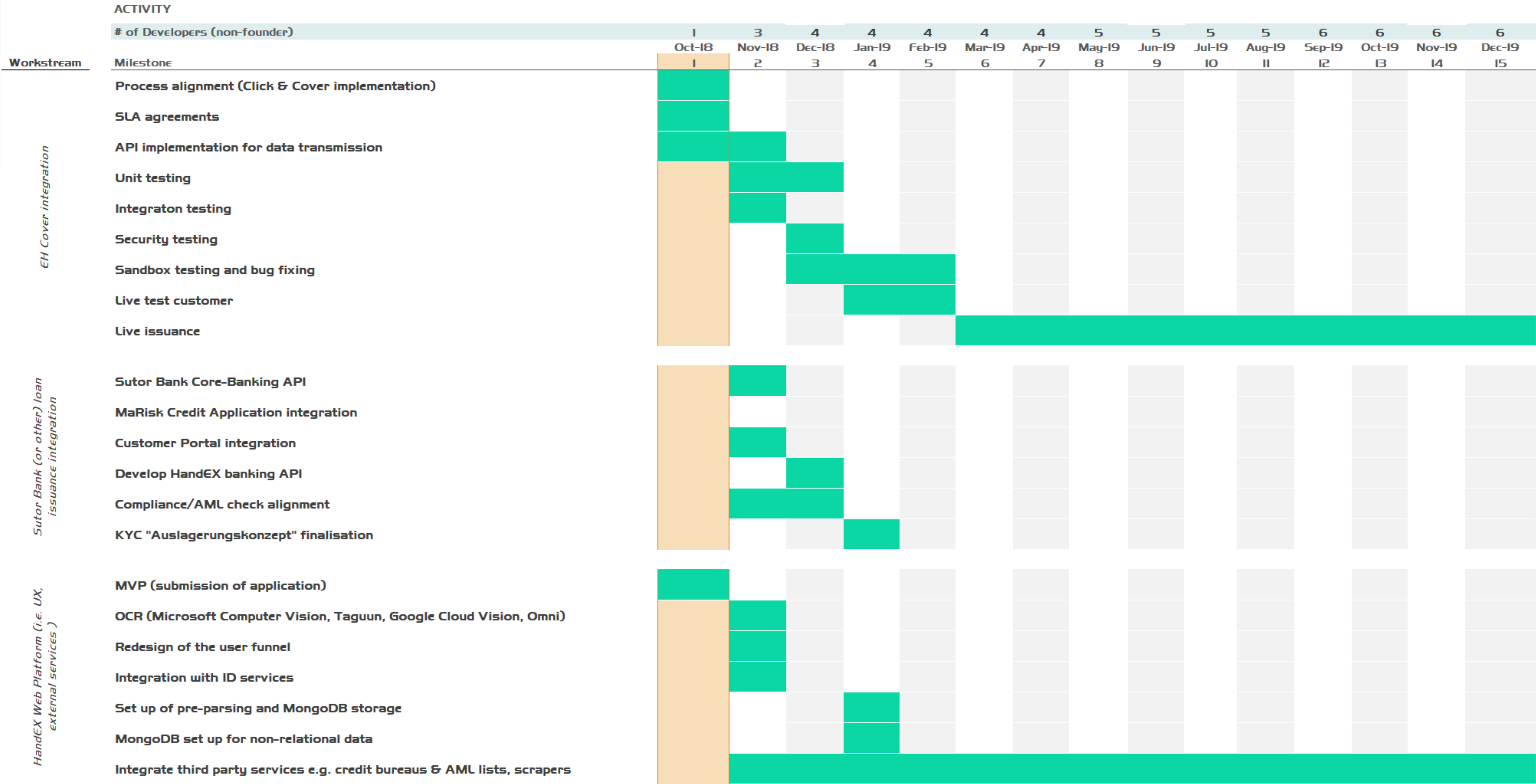
- Credit Bureaus (Equifax, etc)
- Maxmind (IP address)
- Local company registers
- United Nations' Sanction List

Scale up

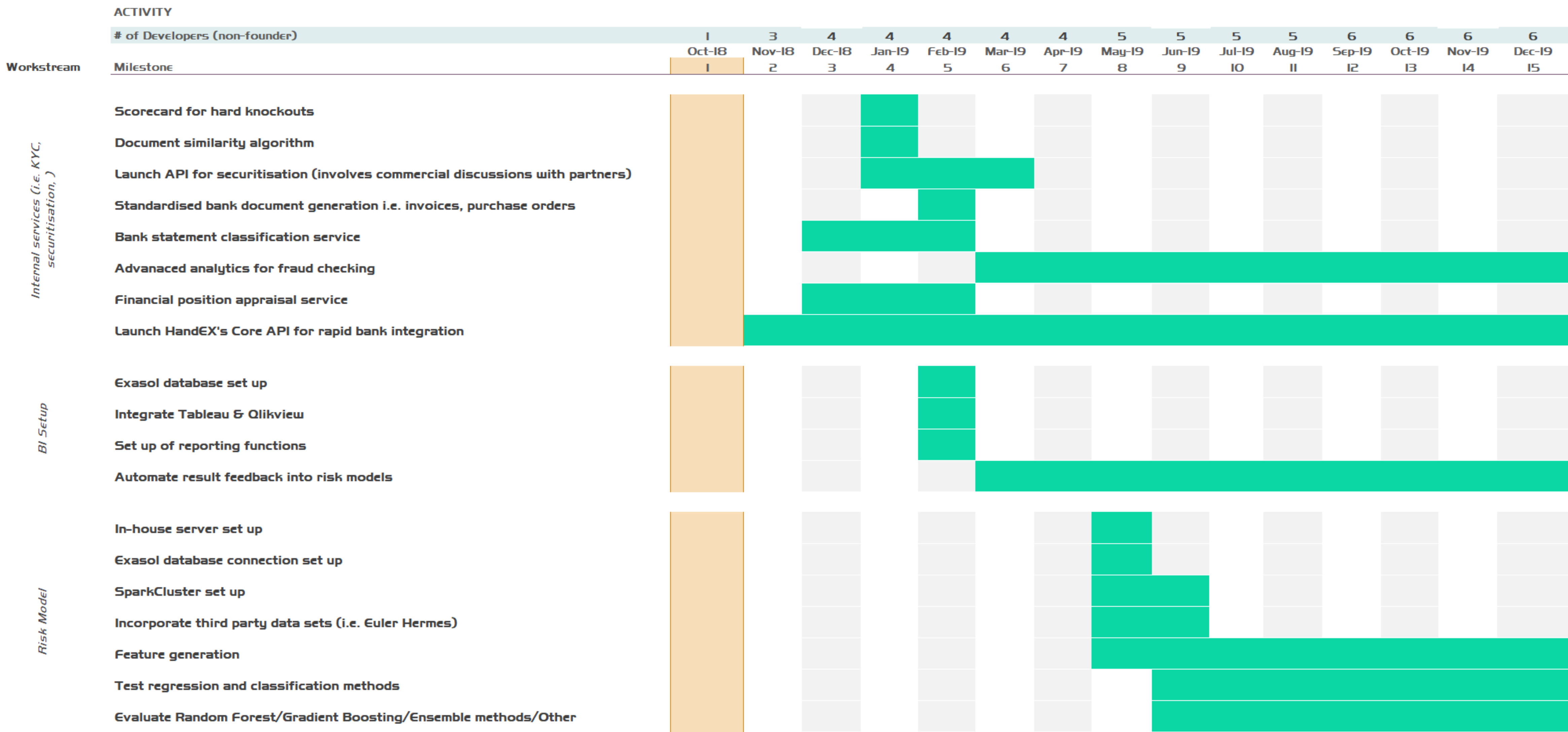
2020/21

- Integration of IoT data (e.g. transport data for insurance, real world assets collateralization)
- Blockchain / Distributed Ledger for KYC
- Maturation of self-reinforcing risk algorithms (observing loan performance)
- Self-deploying partner integration kit

HandEX Detailed Technical Roadmap to EoY'19



HandEX Detailed Technical Roadmap to EoY'19





Appendix

HandEX utilizes new technologies in order to digitalize all aspects of export finance

New Technologies	Pre-transaction		Transaction processing			After transaction	
	Product selection	Data entry	Workflow management	Document check	Compliance check	Problem resolution	Client mgmt. info system
Optical Character Recognition (OCR)		Text recognition from trade documents to minimize data entry		Check for documents completeness based on transaction/product type	Scrape documents for AML keyword hit		
Artificial Intelligence (AI)	Intelligent and personalized marketing: Offer new product sales or client promotions based on insights on clients' needs and behaviours	Populate fields with text from documents (Integrate OCR with transaction process)		Validate/remediate data with cross-references, machine learning	Contextual filtering: Identify suspicious or unusual activity and block suspicious transactions based on predictive indicators	Intelligent problem resolution: Track error rates and flag users in need of remediation	
Advanced Analytics (AA)		Enhanced KYC (e.g., web scrape)	Efficient process and productivity monitoring, and predictive analytics to detect patterns				Report enable enhanced Operational and strategic decisions
Robotic Process Automation (RPA)			Bridge data flow and communication: Integrate data from different systems into single interface				
Internet of things (IoT)			Ease of tracking goods and documents; dynamic pricing and financing triggered by shipment events; automated payments release based on "smart contracts"			Track document locations: Track goods (location, volume, quality)	
Distributed Ledger Technology (DLT)	Create smart letter or credit as smart contract on DLT – auto notifications	Replace documentation checks, data entry, validation, with digital record	Real time verification and reconciliation; workflow executed as per smart contract conditions; replace payment and funds transfer with cryptocurrency				

Source: Bain & Company