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PROTOTYPE CHALLENGE

THE SIC (SMART IOT CONTRACT)

BY FLORIAN SCHWOEBEL

Story

Does an insurance company necessarily need to be "a company that gives you an umbrella when the sun is shining, and takes it away from you when it's raining", as someone said? What if there is enough information transfer between the insurance and its customers to make sure that compliance conditions have been met and the customer's claims are justified in case of damage?

Imagine you have a house insurance, but the company doesn't pay after a burglary with the argument: "You didn't turn around the key twice when locking the door as it says in the contract." How irritating when you did, but can't prove it. And, also irritating, when you have forgotten it, but the burglars went through the window - your claims are invalid just for not meeting formal legal conditions.

Technical devices like sensors, and IoT can help meeting contract conditions in this case - and a smart contract can automatically calculate that your claim is justified and automatically send you the money. Just imagine there's a device at the lock of the door, beeping when you don't turn the key around twice - and sending the information that you properly did so to the insurance company.

My IoT prototype SIC (Smart IoT Contracts) is supposed to accomplish improved compliance, less cost and less effort for insurers and customers in the field of machines and facilities. It utilizes both sensor data and blockchain technologies. The customer is given a maximum premium (price) guarantee. The premium then can be lowered regarding individual machine and maintenance data.

Persona

Proper, Billy T.

The Prognosticator

"For the purpose of predicting the future, I need to know the present. The more (IoT) data I can get to calculate with, the better the prediction will be."

About

- 42, married, 8 years of experience in actuarial product development.
- I am an insurance contract designer - which requires creativity, mathematical skills, and business acumen.
- Modelling risks, calculating insurance contract conditions, and a lot of communication with sales colleagues and customers - that's what my days look like.

Responsibilities

- I am the head of a team responsible for the invention and elaboration of cutting-edge insurance products for machines and facilities.
- I need to keep up to date with up-to-date technologies.
- I spend most of my time in the office, but I also visit customers and prospects in their factories.

Main Goals

- It is always a tricky task to calculate premia as small as possible to get as many customers as possible on one side,...
- ...and on the other side high enough to be able to settle claims and to raise our profits.

Needs

- When I do not make sure that the customers be compliant, cost (premia) are too high for most prospects - because I need to calculate carefully.
- I need to know more about what's going on with the machines and facilities that we insure.
- I need the ability to access information like sensor data, geo location, predictive maintenance actions to calculate more precisely how high the risk of damage is.

Pain Points

- Getting information via human communication is extremely time consuming. This should somehow be automated.
- I'm forced to treat compliant customers just like customers who don't take care of their facilities - because of the caution principle.
- Managing contracts individually to offer the best price to everyone is nearly impossible without automation.

Point of View

As an actuary inventing new insurance products for our manufacturing companies

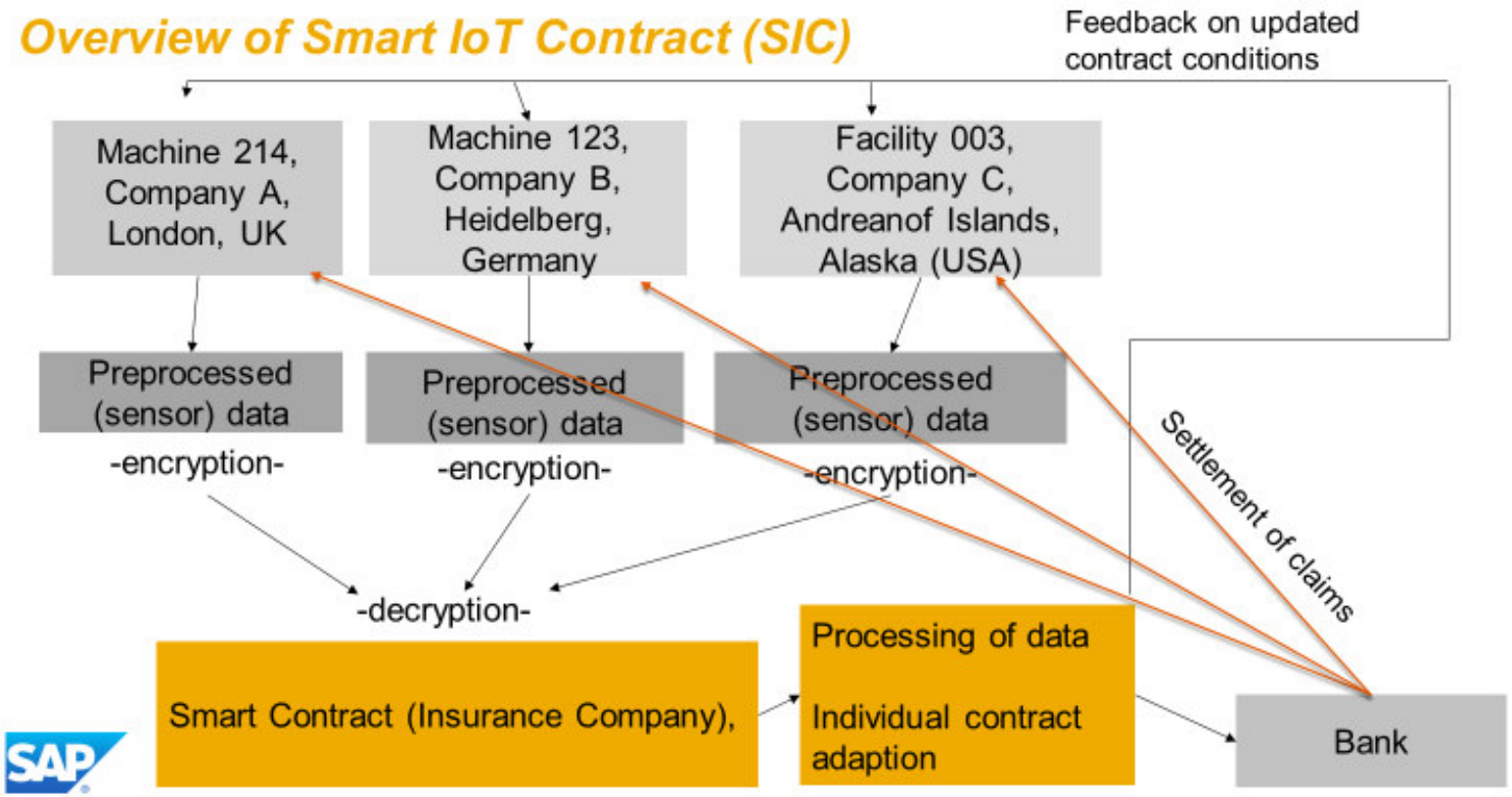
I need a way to reduce the price (premia) and handling effort and raise the attractiveness and reliability of our products

so that we get more customers, more confidence from customer side, and last not least raise our overall turnover and net profit.

User Experience Journey

ACTIONS	Getting a call from a prospect - she doesn't have confidence that we really pay in case of need	Getting an email from a customer - he wants to cancel his contract - too expensive. Predictive maintenance is insurance enough for him.	For a visit at a customer's factory	A visit from Arnold from the Business Software Company. Listening to the possibilities of "SIC" ("Smart IoT contract")	A call from a sales colleague: "Your new contract sells like hot cakes! It's awesome. Susan from Machines Inc. was completely weirded out about how fast we settled her claim!"
MINDSET	"Always this fight for fight for trust and confidence - it's back-breaking. As if we had nothing to do than finding a way to not pay... "	"I told him predictive maintenance is not enough - imagine an earthquake damaging his machines. Maybe he's coming back. "	"Wow. They use so many sensors to collect data from their machines."	"Disruptive! With this tool, I can calculate and design amazing contract constructions! Each customer can decide on their own what data they disclose to us."	"Excellent. Welcome back, Susan! And make no mistake, Jon will soon be back, too..."
FEELING	☺				
	☹				
TOUCH POINTS	- Phone - Voice of Susan, head of manufacturing at Machines Inc.	- Desk in own office, mouse, keyboard, screen - Mail from Jon, head of predictive maintenance at Facilities Corp.	- Huge factory building - Lots of big and loud machines peppered with sensors	- Arnold - Meeting Room in own company - Power Point presentation from projector	- Phone (headset) - A bottle of champagne and some glasses to celebrate the success of his new product.

Overview of Smart IoT Contract (SIC)



Example of a Database Table Used in the Insurance Company

	A	B	C	D	E	F	G	H	I
1	Insured Object	Company	Location	Last Full Maintenance	Last check	Temperature	Person responsible	Risk of earthquake	Condition according to analyzed noise data
2	Machine 214	A	London, UK	01.01.2016	01.07.2017	18 °C	Ms. Schweppes	low	good
3	Machine 123	B	Heidelberg, Germany	02.04.2016	02.08.2016	35 °C	Mr. Gutenberg	low	excellent
4	Facility 003	C	Andreanof Islands, USA	15.06.1988	01.08.1989	25 °C	Mr. Simpson	high	critical