

Smart Fire Protection

Don't play with fire, extinguish it!



MARKET RESEARCH

FIRE AWARENESS IN TEXTILE INDUSTRY SMES



Insights Debrief & Crowdsourcing Kick Off

Agenda



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- 1 Insights about the textile market
- 2 Insights about fire & protection
- 3 Insights about the regulatory environment
- 4 Insights from the SMEs interviewed in Turkey

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INSIGHTS ABOUT THE TEXTILE MARKET

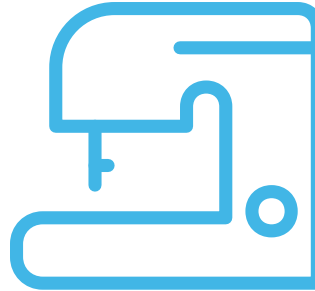


Global trends in the textile market

An increasingly competitive marketplace



Developing online sales channels



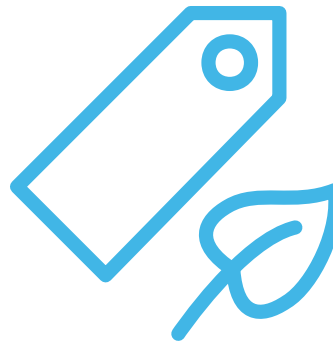
Investing in automatization technologies



**Entrance of new players
(e.g. Amazon's Prime Wardrobe)**



**Increase of demand
in emerging economies**



**Sustainability issues
due to decreasing lengths
of fashion cycles**



**Oversaturation of the
retail space**

Developed markets

Are pulled from both sides



1.
Slow or negative sales
growth

2.
Increasing importance of
smart textiles

3.
Rebound in the **luxury
goods** segment

EU law

“Nothing more specific”

Renting the warehouse is
common in Portugal

Rent

Reliable

More reliable & better employers
than Turkish factories

“A fire would kill them”

Small
margins

Owner

“Owners want to do the least”

Accent on safety compliance
when working with machines

Work
safety

PORTUGAL

Developed markets

Focus on the French market



1.

The industry is doing better since 2017

2.

EU directives are stricter in France

3.

Shortage of qualified staff & lack of investments are the main challenges

5 categories

Spinning, weaving, knitting, ennobling, manufacturing

“Overwhelming majority of SMEs and very small ones”

SMEs

3 sub-markets

Fashion & luxury, home & decoration, technical textile ('unique use')

Own all means of production

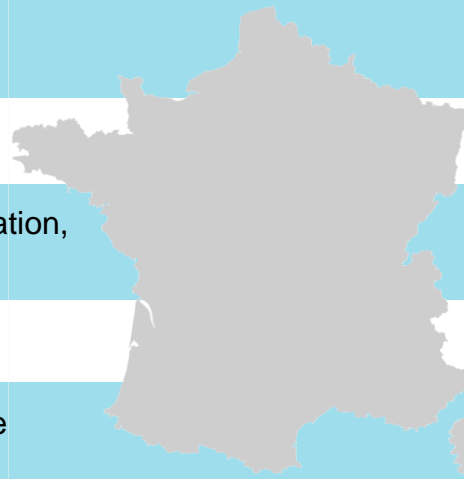
Own

3 regions

Auvergne-Rhône-Alpes, Nord de la France, Grand Est

Can have their own brand and sell to other categories

Clients



European textile companies SMEs power the industry



Small and medium enterprises are at the core of the industry, representing 99% of the 177,700 companies. These companies directly employ 1.7 million workers



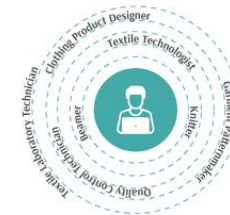
SOURCE: EUROSTAT

Women represent more than 70% of all employees in the sector



Until 2025, nearly 600.000 job openings are anticipated in the textile and fashion sector in the EU

**TALENTED SKILLED EMPLOYEES
ARE CRUCIAL FOR OUR SECTOR**



EUROPEAN SECTOR SKILLS COUNCIL TEXTILE CLOTHING LEATHER FOOTWEAR, REPORT 2014

Source: Euratex

Top 10 European textile producers

Portugal, Spain & France are the top employers



TOP 10 EU PRODUCERS OF FASHION AND TEXTILE GOODS



Source: Euratex



Overview of the Turkish textile industry

One of the largest best-performing sectors of the Turkish economy

Market Facts

- **7%** of the country's GDP
- **56,000** textile and clothing companies
- ~ **two million** people employed
- Large-scale mechanized to small-scale traditional units
- Spinning, knitting, weaving, finishing
- Industry is largely based on **cotton**
- **20%** of Turkey's total exports are clothing and textiles
- **USD 15bn** in foreign sales generated



Overview of the Turkish textile industry

But also a busy, stressful, competitive industry with tight margins

Expert Insights

- Export companies vs. “under the stairs” producers
- Most companies in the 10-50 employee bracket
- Staff: lower education, hard to find qualified staff
- Many SMEs self-taught in the field, family businesses
- Margins are very tight
- Stressful, tight deadlines
- Since arrival of e-commerce, Turkey is more competitive than China
- Syrian immigration is a sensitive topic: employers are conscious but also attracted by the low cost of staff

Challenges facing the Turkish textile industry

Big long-term growth opportunities that could be threatened



Political instability
Terrorism



Informal employment
Illegal refugee and child labor



Increases in manufacturing costs
Loss of cost advantage
Bureaucracy



Seasonality of production
Machinery pool largely imported
Lack of innovative structures

So what?

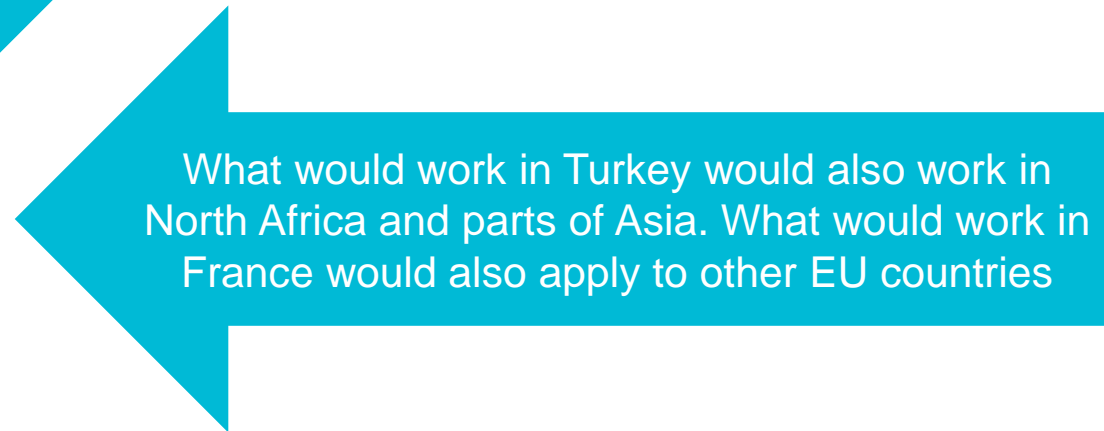
All textile SMEs need better protection, by law or will



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Machinery is old in both regions, and pressure to invest in new equipment is felt



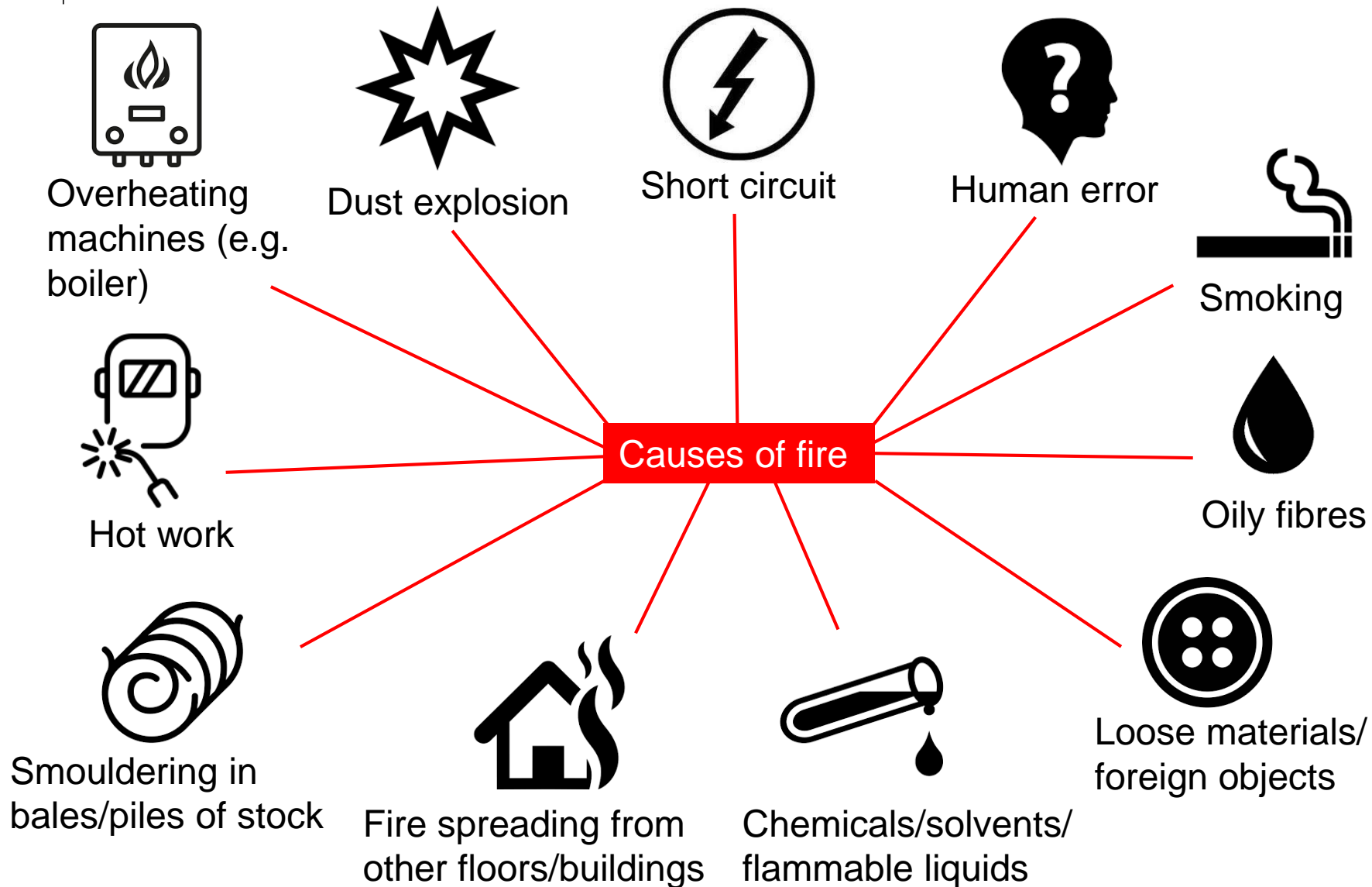
What would work in Turkey would also work in North Africa and parts of Asia. What would work in France would also apply to other EU countries

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INSIGHTS ABOUT FIRE & PROTECTION

Causes of fire in the textile industry

Sparks creating dust explosions and human errors are most common



A huge fire broke out at the warehouse of a packaging factory and spread to other buildings nearby in Turkey's northern Kocaeli province. Factory workers claimed that it was caused by broken electrical wires.



Five workers killed, 16 injured in explosion at textile factory in Turkey's Bursa. The blast occurred at around 11:30 a.m. in the boiler. The factory had not been renewed in recent years. There was no fire but it looked like a battlefield.



A fire in a textile factory in Bangladesh killed six workers on Wednesday before it was extinguished, police said, renewing fears about safety in the multi-billion dollar industry.



Large Istanbul fire damages more than 60 workshops. The fire started after paint thinner that was stored in a workshop's attic caught fire. The blaze quickly spread to adjacent buildings. Large amounts of fabric and chemicals made it difficult to contain the flames.



Burnt remains of yarn factory owner found in rubble 70 hours after blaze in Turkey's Gaziantep



A strong fire broke out at a textile factory in Istanbul on Monday morning. Firemen, who arrived on the scene, still cannot extinguish the fire.



Despite the passage of at least 24 hours, firefighters were not able to completely douse a third degree fire that broke out at a textile mill in an industrial area of Karachi.



Fire guts textile factory in Dhaka's Shyampur. The fire started from the third-floor. The people inside the factory rushed to the roof after the flames erupted. They were rescued around 6am, when the fire was under control.





7 textiles companies with no smoke control equipment, with archaic storage & maximum occupancy see their warehouse crumble under fire

30 boxes of clothes catch fire & cause the redundancy of 30 employees.
Luckily, the sprinklers and RIA stop the fire before the fire brigade arrives.

Latex foam mattresses go up in flames as protective foam from the sprinklers leaves the building through open doors & block the work of fire fighters as a result.

Early morning, a fire starts in a textile factory where storage boxes block emergency exits & hallways, where extinguishers & RIA haven't been checked in years, and where the electrical boxes always looked worryingly antiquated.

Overheating of a textile machine causes fire & 3 employees suffer from the smoke.

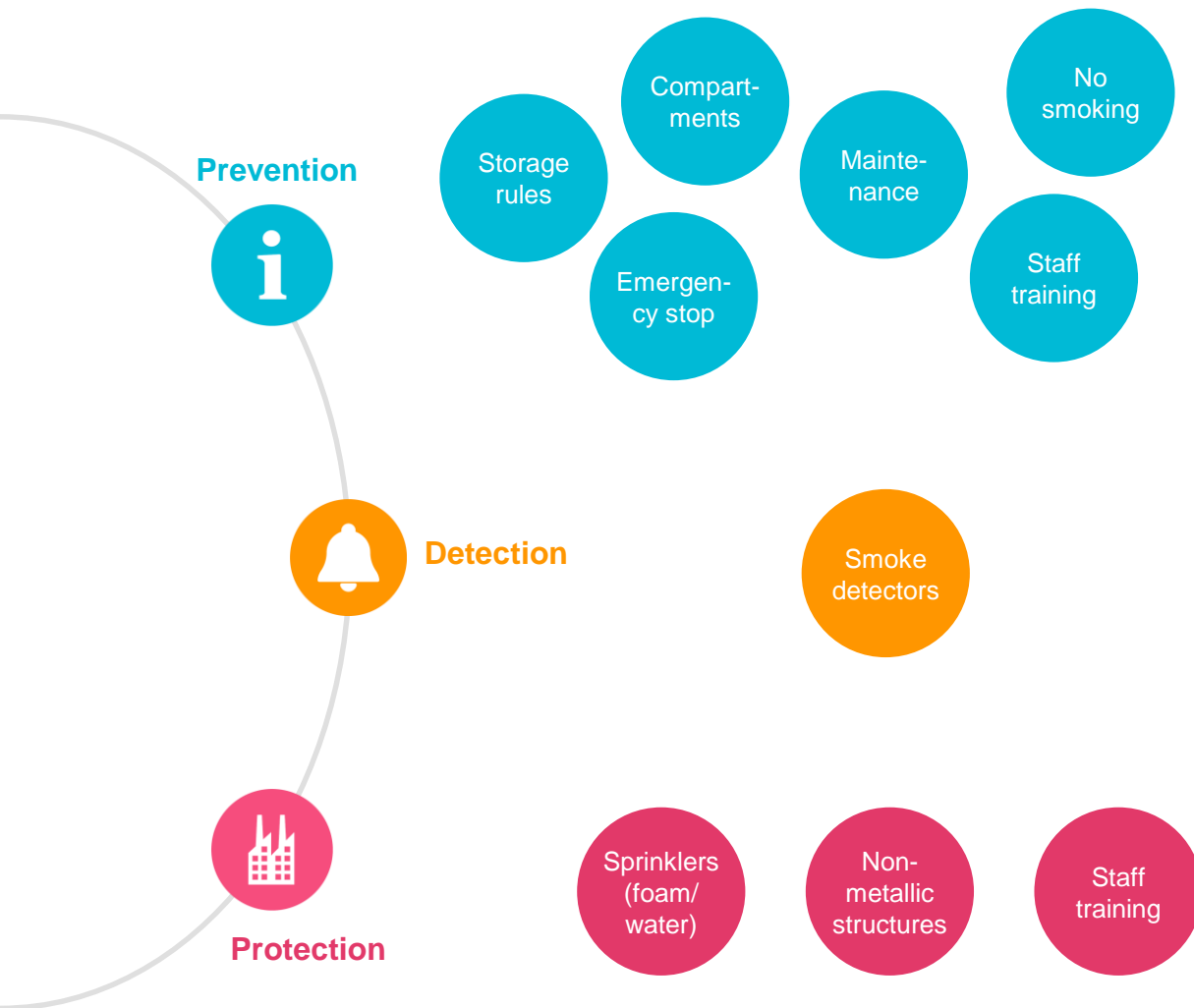
Three employees manage to escape fire through an emergency exit that was locked and blocked following a theft accident last weekend.

The RER B and A86 motorway in Paris are temporarily shut down because of black smoke coming from a fire in a large textile & shoe warehouse. The warehouse didn't have automatic fire extinction equipment nor efficient compartmentalisation.

Fire from air compressor destroys textile factory in city centre.

Protection against fire

Experts recommend set ups that are not always respected



"Sprinklers are very efficient, they deliver a lot of water on a small fire start." (Nicolas)

"Fire doors are very efficient but cannot be used in warehouses." (Yannick)

"With fire extinguishers, one must react straight away or it is too late to use them." (Yannick)

"And even if the audits were very strict, structural problems of SMEs make it hard for the factory to be safe. We recommend one single floor factories, with high ceilings, and not located in the basement." (Mesut)



"Sometimes, too much protection kills protection." (Nicolas)

Consequences of fires on textile factories & their owners

Fires are more damning for Turkish SMEs



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Challenges to recover	<ul style="list-style-type: none"> • Interruption of business • Technical redundancy of staff (<i>chômage technique</i>) • Potential loss of insurance contract 	<ul style="list-style-type: none"> • Loss of client & machines (if the fire is total or if enough machines are destroyed to stop production) • No re-financing options available • Knock-on effects of an explosion on other industrial facilities
Support to recover	<p>They believe they can recover because...</p> <ul style="list-style-type: none"> • They are all insured • They have more than one client or do both: produce for their own brand and produce for another textile line 	<p>They believe they can recover if...</p> <ul style="list-style-type: none"> • They have cash aside or insurance • They can find a new factory to rent within 1 month

"I've never seen or heard of a textile SME going bankrupt because of a fire."
(French experts)

"Of course we're insured, but we recovered thanks to our equity, we couldn't have waited for the insurance payout. We used our own money first, then there was a trial between the insurance of the workplace downstairs and ours." (Ilhan)

"We wouldn't need to borrow, I could cover some part in cash and lease new machines if I'm really in a difficult position."
(Fidel)

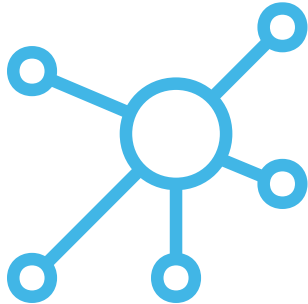
"Refinancing would be very difficult or impossible for owners." (Bilim)



But in both markets, insurance payouts very often lead to disputes and are paid too late, so SME owners rely on cash or "company equity" to recover fast

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Global trends in fire protection



Impact of IoT



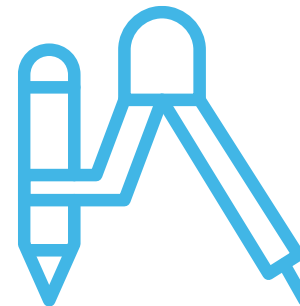
BIM + 3D fire models



Dynamic wayfinding



**Smart
firefighting**



**Performance-
based design**

So what?

There is a clear opportunity to better protect Turkish & French SMEs



There is a clear lack of prevention equipment against fire in textile SMEs. They tend to be reactive instead of preventive

Fire devices geared towards prevention could help avoid financial consequences on the business caused by fire

INSIGHTS ABOUT THE REGULATORY ENVIRONMENT

Regulations

Insurance & building requirements in France



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Multi-risk insurance is compulsory

Fire extinguishers are required in all industries

A danger study is required for each Classified Installations

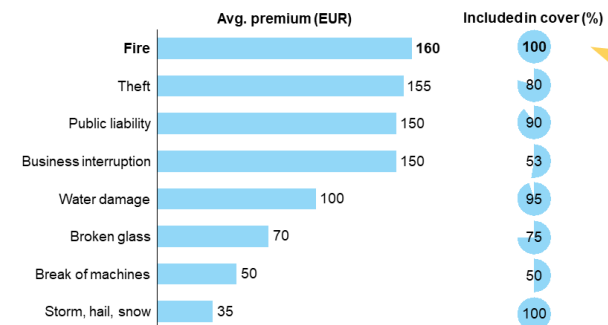
Warehouses buildings must be isolated

Warehouses must be equipped with fire protection devices

In France, insurance protection against fire is very high:

INSURANCE COVER OF FIRE IS VERY PREVALENT

2016 statistics for P&C in B2B



Fire is most expensive risk to insure against
→ Reduced premiums due to improved prevention could benefit many clients

File name | department | Author
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Regulations

Insurance & building requirements in Turkey



Less than 30% have P&C insurance

Ventilation & extinguishers are required

Very few compulsory liability insurances

The TCIP earthquake insurance is separate from fire

“Fire Load” computation determines protection level

Hazardous Classification for industries

In Turkey, insurance cover of SMEs is very low:

Allianz Turkey



Turkey at a glance

Key data 2015

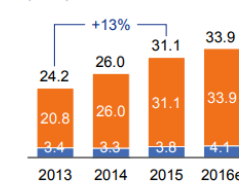
- Population: 79mn
- GDP (EUR): 553bn
- GDP/capita (EUR): 7,000
- Inflation: 8.8%
- Insurance penetration¹: P/C&H 1.3% Life 0.2%
- Country rating (S&P): BB+
- FX rate: EUR 1 = TRY 3.02²

Market specifics

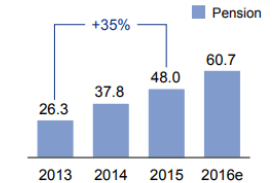
- P/C&H market composition: motor 48%, fire 14%, health 13%, casualty 10%, others 15%
- P/C&H distribution: agency 66%, bank 14%, broker 12%, other 8%
- Life distribution: bank 80%, agency 9%, broker 1%, other 10%
- Fragmented market with ~ 40 players in P/C&H; L/P market dominated by captives of banks³
- Market showing signs of hardening in MoD, prices doubled in MTPL

1) GPW as % of GDP
2) FX rate as an average for 2015

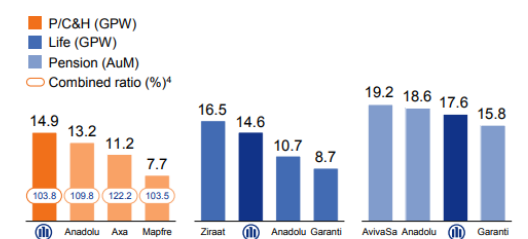
Market size and growth (CAGR) (Stat.) GPW, TRY bn



Pension AuM (CAGR) TRY bn



Market shares in % (2015)



3) Insurance companies owned by banks
4) Local GAAP (2015)

Regulations

Health & safety at work



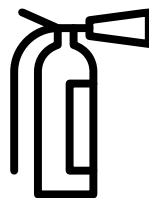
Civil Liability Insurance and electrical tests are required

Only 35% of companies checked comply with norms!

French burden of bureaucracy

Lobbying against “over-transposition” of EU directives

Machines to have an automatic emergency stop function



Certificates imposed by clients require audits

Occupational health and safety code largely ignored

Gap between auditors' recommendations and reality

Workplace safety experts from joint health and safety units

Regulations

Controls are not efficient



But in both countries, controls are inexistent or rarely complied with!

SME owners feel 'above the law' and see these controls as an annoyance

"NFPA imposes some restrictions but the companies fail to enforce these restrictions into their factories."
(Mesut)

"The owners get controlled once a year, they follow the advice for one month and after that bad habits take over again."
(Yannick)

"SME owners come to me if they've had a control but when there are no controls, they don't do anything."
(Nadia)

"SMEs think they're exempt from the norms. They're not. But it feels like they are because no one checks."
(Mesut)

"Many SMEs minimize the risks, they don't realize to what extent their responsibility is involved."
(Nadia)

"I can't imagine that ateliers would call the safety experts themselves if it's not to obtain a certificate!"
(Bilim)

Regulations

Perceptions of insurance in both markets



Having insurance is compulsory, but owners don't care about it and don't trust insurance companies.



Turkish owners tend not to think about insurance and if they do, it's because it's imposed upon them.



"Insurers will look for the small details in order not to pay out the full sum. They can also cancel any contract without any notice or any reason. So people perceive insurers as thieves."
(Eva)

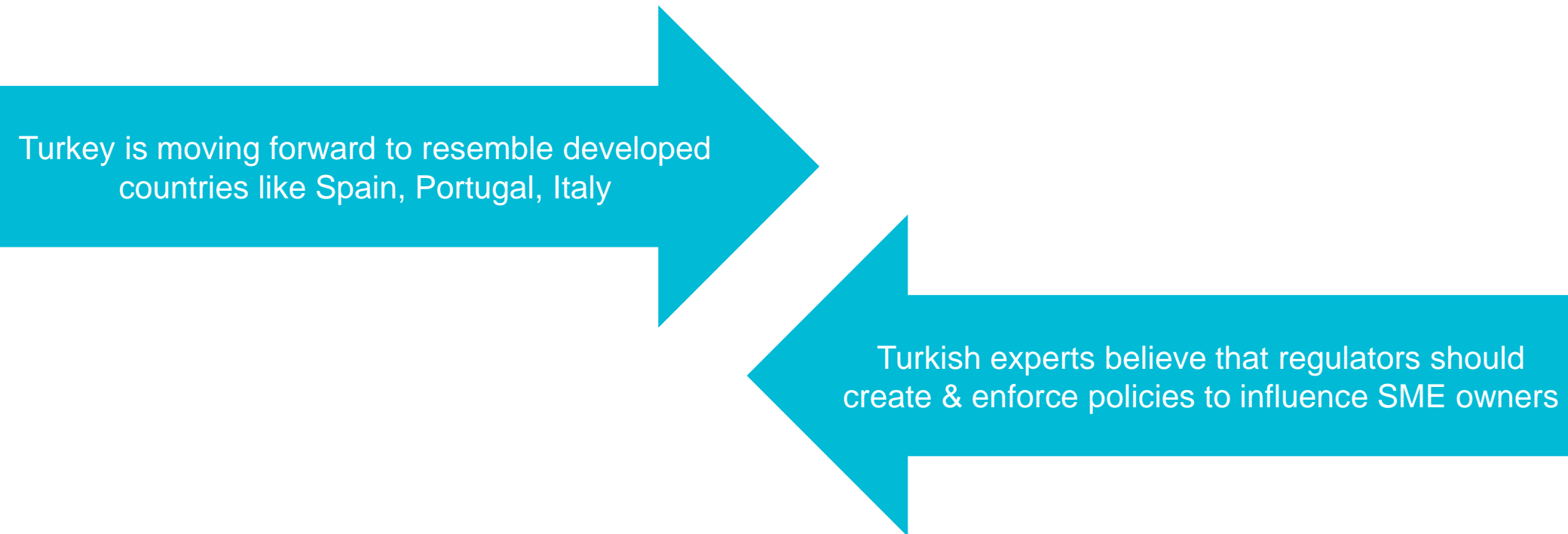
"We know all the insurers in our region. For a claim of 100,000€ they will try to pay out only 50,000€."
(Yannick)

"Insurance is perceived as something done out of obligation, we do it if we have to. We don't get insurance to secure our future."
(Bilim)

"There was a dispute with the insurance. They said something about the wiring inside drywalls, that we weren't insured against it. In fact, we had done it full-scope."
(Ilhan)

So what?

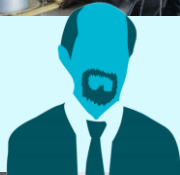
Turkey is trying to close the gap with EU regulations



Turkey is moving forward to resemble developed countries like Spain, Portugal, Italy

Turkish experts believe that regulators should create & enforce policies to influence SME owners

SME INSIGHTS FROM THE TURKISH MARKET



HASAN A.



Hasan A.

Quotes from Interview



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On his machinery:

"You can use a sewing machine for 20 years if you oil it correctly, their parts do not wear."

On his employees:

"If you don't care about your workers, your workers won't care about you."

On damage caused by fire:

If fire starts in clothes, everything would burn down:
"Fire is irreversible."

On his insurance:

"Most of my friends had losses because of mistakes, theft, etc. so I saw it first-hand that I needed to be covered."

On why he doesn't have sprinklers:

"You know, in Istanbul most of the buildings are old, they aren't built like car parks, the guy wouldn't take any precautions against fire after all."

"We discussed getting it installed before. Other neighbors weren't interested at all, no one asked about prices or wanted to do anything so we had to put it on the shelf, it's still waiting."

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ILHAN



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On his experience with fire:

“It happened once, it was bad, we recovered but it left deep psychological scars. There's a furniture shop downstairs, the fire broke out there and spread to our area.”

Equipment installed before the fire:

“We have fire extinguishers on all floors, they are checked regularly. Additionally, we have a fire hose and a water tank it's connected to. We have them all but there was such panic that we didn't have a chance to intervene.”

Equipment installed after the fire:

“Let's say we had a 5 ton water tank, we increased it up to 15. We've installed fire alarms on all floors and sprinklers.”

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Recovering from the fire:

“We're insured, but we covered with our equity, we couldn't have waited for the insurance payout. We covered first, then there was a trial between the insurance of the work place downstairs and ours.”

Did the insurance cover all your losses?

“Well, there was a dispute there, there was a problem with drywalls and electricity but I suppose they covered that as well. I don't remember clearly, they had said something about the wiring inside drywalls, we weren't insured against it.”



HASAN



Hasan

Quotes from Interview



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On the risk of a fire:

“In textile, it’s the biggest risk because of electrical boards.”

“I know others who have had fire problems, not me.”

On fire safety precautions:

“We don’t have any fire stairs, we don’t meet the same standards as in Europe.”

On his insurance:

“I don’t know the differences between insurances, I got insured because I know the AXA lady.”

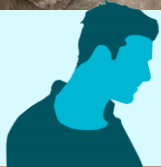
“It covers everything you can think of!”

On his employees:

“I want workers to stick around.”

“For loss of raw materials or produced goods I wouldn’t cry but people cannot be replaced. I know the families of my employees.”

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FIDEL



Fidel

Quotes from Interview



On the risk of a fire:

"I don't always think about it, but if you ask me about risks that's the first thing that comes to mind."

"Cotton is the most vulnerable, it's very flammable, like gasoline."

In the case of a fire:

"I can compensate for the products that I lose, but I can't compensate for my client."

On fire safety equipment:

"If I'm a tenant, I don't want to invest in protection."

On insurance:

"There's no insurance, we didn't think about it...We're trying to take many precautions ourselves."

On car insurance vs. work insurance:

"The risk of accidents is high, and a risk of fire at the work place is less likely, in fact there's little if any chance. But the risk of a car accident is higher, there are many external factors when it comes to cars, you might get hit by a car that was parking, the risk is higher. The risk for my work place is lower."

On employees' concern for fire safety:

"No, I've never heard of anything like that, they're less concerned than I am."



SONGUL



Songul

Quotes from Interview



On machinery:

“When employees make a mistake with the machine, the machine locks and my husband is the only one who has the password to unlock it.”

“We used to get smoke out of manual machines, but now they all stop automatically.”

On clients:

“We only work for one company because that’s all we have capacity for.”

On causes of fires:

“We have a lot of power cuts and short circuits that could cause fire because of the tube construction.”

On damages caused by fires:

“There are other people living in the building and we wouldn’t want to harm anyone.”

On insurance:

“We neglected it, because we need to pay the rent and we want to change our machines.”

“Fire insurance will protect us, not equipment.”

Songul

Quotes from Interview



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On fire safety training:

“The brains of owners only know business. We only know to call the fire brigade, that’s what we’ve been told.”

On safety certificates:

“Our customers don’t care about fire certificates, they only care about the deadline.”

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GUVEN



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On the risk of fire:

“Yes, we think about it but we haven't done anything either.”

“Because the job isn't very profitable after all. Big money isn't involved here. So starting over would take a lot of time and it's costly too.”

On cause of fires:

“Well, surely some cables in our workshop are visible. We saw a small spark there, it buzzed...We turned off the switch immediately. We called over an electrician and had it fixed.”

“After we call it a day we turn off the power switches one by one and check everything. But still, there's no other place a fire could break out.”

On fire extinguishers:

“Yes, we'll use them. If the fire isn't too big, that is. I don't think they would help in case of a large fire...If the boiler explodes, there's nothing you can do after all.”

On other precautions:

“We haven't taken precautions because we haven't experienced a fire before.”

“...places with fire exits. That comes to mind. With ground level places like ours, it's difficult...We can't tear down a wall and turn it into a door after all.”

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On safety certificates:

"I'm not entirely sure [how we got it] either. Here's how, our accountant came over. He said that the law required something regarding occupational safety. We signed something and did it, that's how."

"[Our clients] just tell us to sew their products right, that's all."

On not trusting insurance companies:

"We see these in the news, on the newspapers. The guy says he's insured but he's paid 200 TL for something worth 1000 TL. I don't know, they say it has expired. We hear different stories or they make up excuses...I think this is the reason people aren't leaning towards insurance."

"Or they have you sign some documents. There are points we don't understand but we still sign them, for example. They find a loophole somehow. They find a way to not pay, they don't cover."

Overview of the situation



PREVENTION

Job safety experts

- Act on behalf of the municipality or clients
- Only control premises to deliver certificates

Regulator, municipality

- Requires extinguishers & ventilation to open a business
- Does not control factories

International client(s)

- Require factories to comply with higher standards & obtain certificates
- Send auditors in every year or 6 months
- Will send back goods or change supplier if the quality of the goods is not high enough

Building owner

- Will decide whether fire protection equipment can be installed on his/her premises

Employees

- Can still make mistakes while operating a machine or smoking in the wrong place
- Do not know how to react in case of fire
- Are not trained

Textile manufacturer (SME)

Domestic client(s)

- Do not care about high production or job safety standards
- Will switch suppliers easily

Other producers

- Will tell stories of fire damages to their close circles
- Will take over the client of another producer hit by fire damage

PROTECTION & RECOVERY

Fire fighters

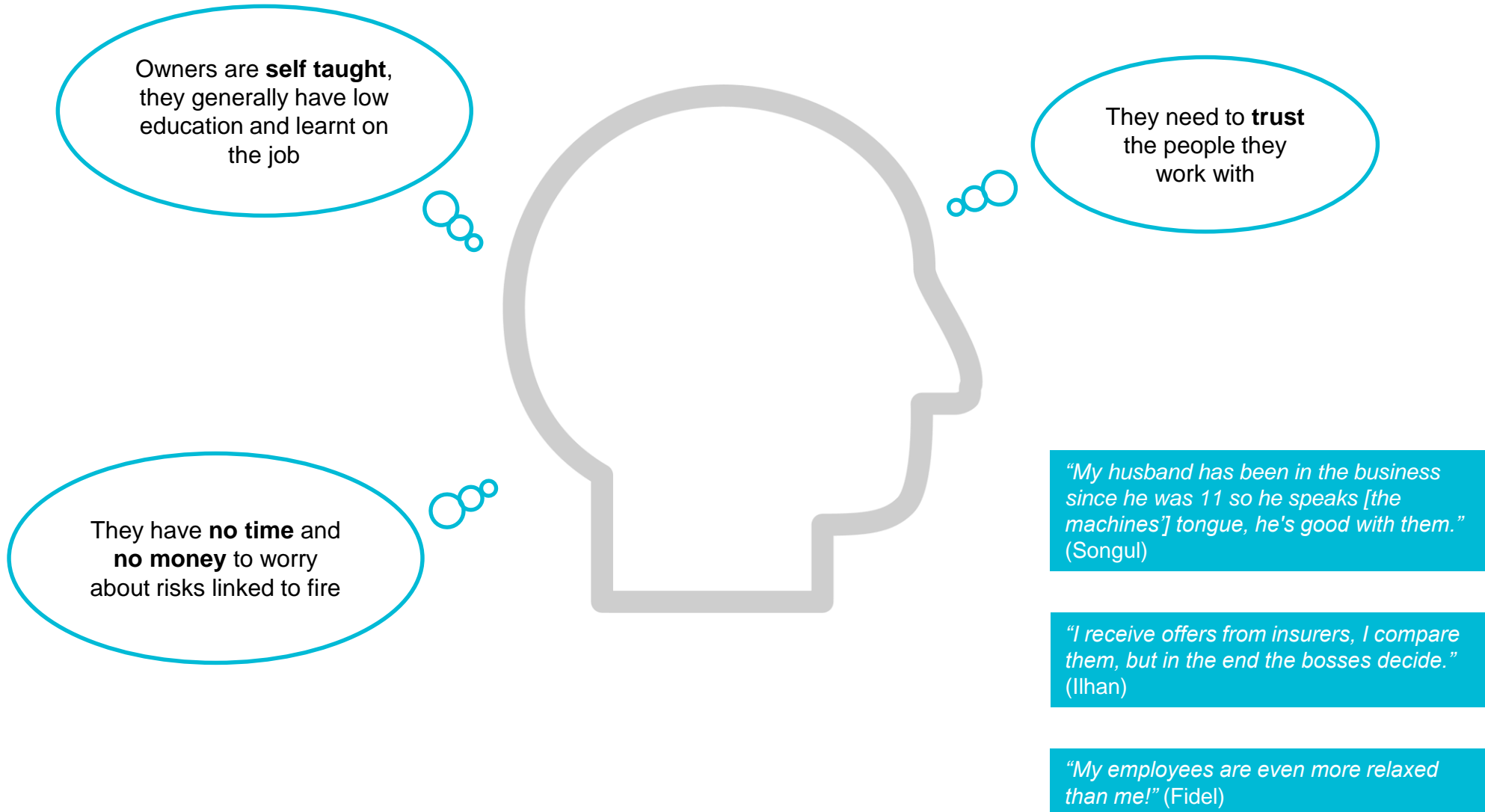
- Will stop the fire
- Might sometimes deliver training

Insurance

- Will give money to the SME to cover for the losses of machinery, raw materials & produced goods
- Will pay the workers' salaries while the company is recovering

The owner's mindset

The owners make decisions, the employees (don't always) follow



The machinery they own

Machines are old and sometimes even self-made



All machines are bought **second-hand**, some are even built in-house

They are **rarely replaced**, rather repaired by the workers themselves



Not all machines have an **emergency stop** function

The people working with the machines are **not trained**, they learn on the job

"Normally these machines are bought from abroad,. We made these machines through our own means." (Fidel)

"Textile SME owners are jack of all trades." (Bilim)

"The old machines were different. They weren't automatized, these new ones have computers in them. It locks down when something goes wrong." (Songul)

Their attitudes towards risks

Fire is not top of mind, business is



BUSINESS RISKS

1. Fluctuation of the dollar rate
2. Finding qualified staff
3. Terrorism



PROPERTY RISKS

1. Fire
2. Theft
3. Earthquakes



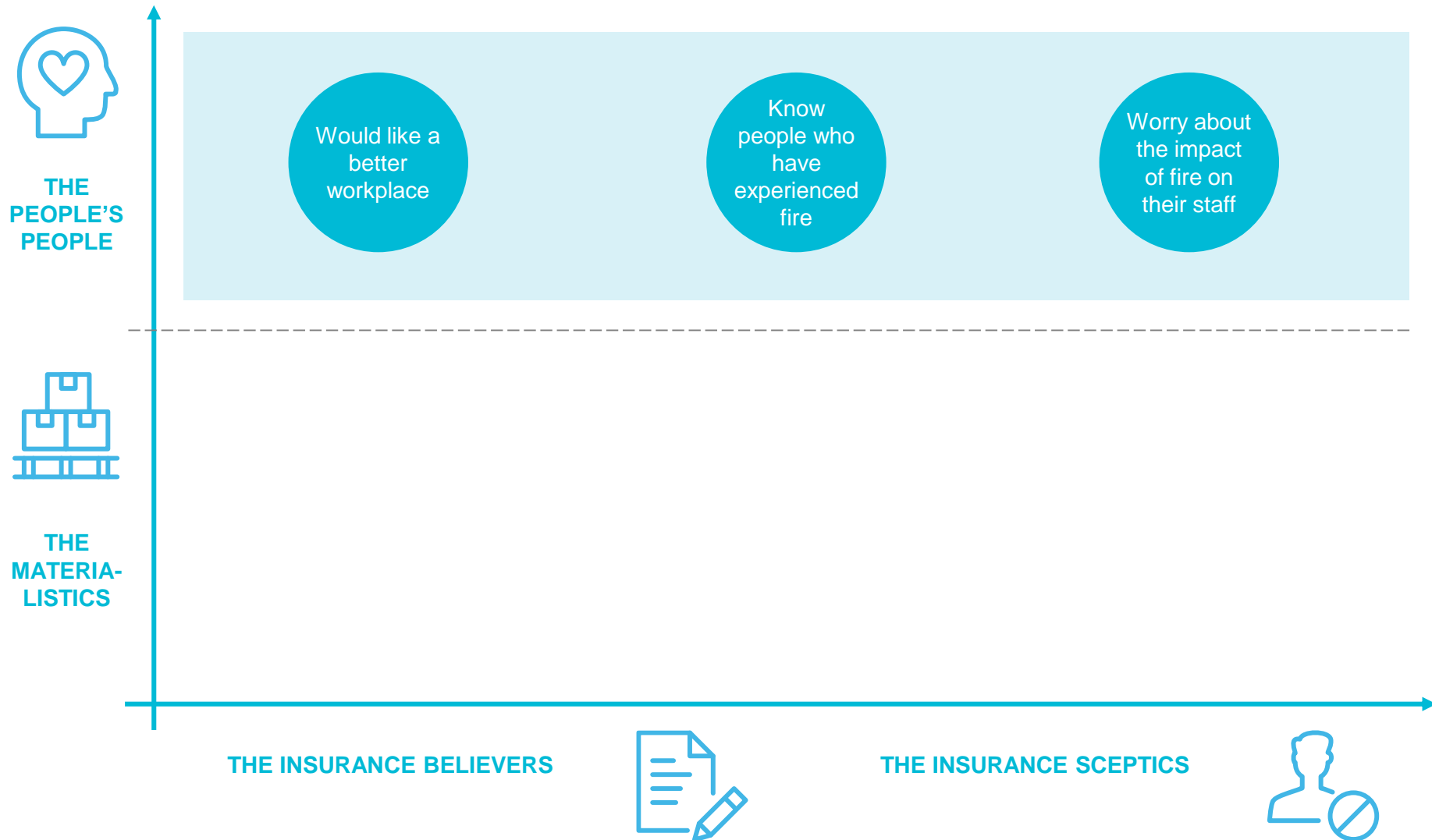
"Hazard risk is the same all over the world." (Scott)



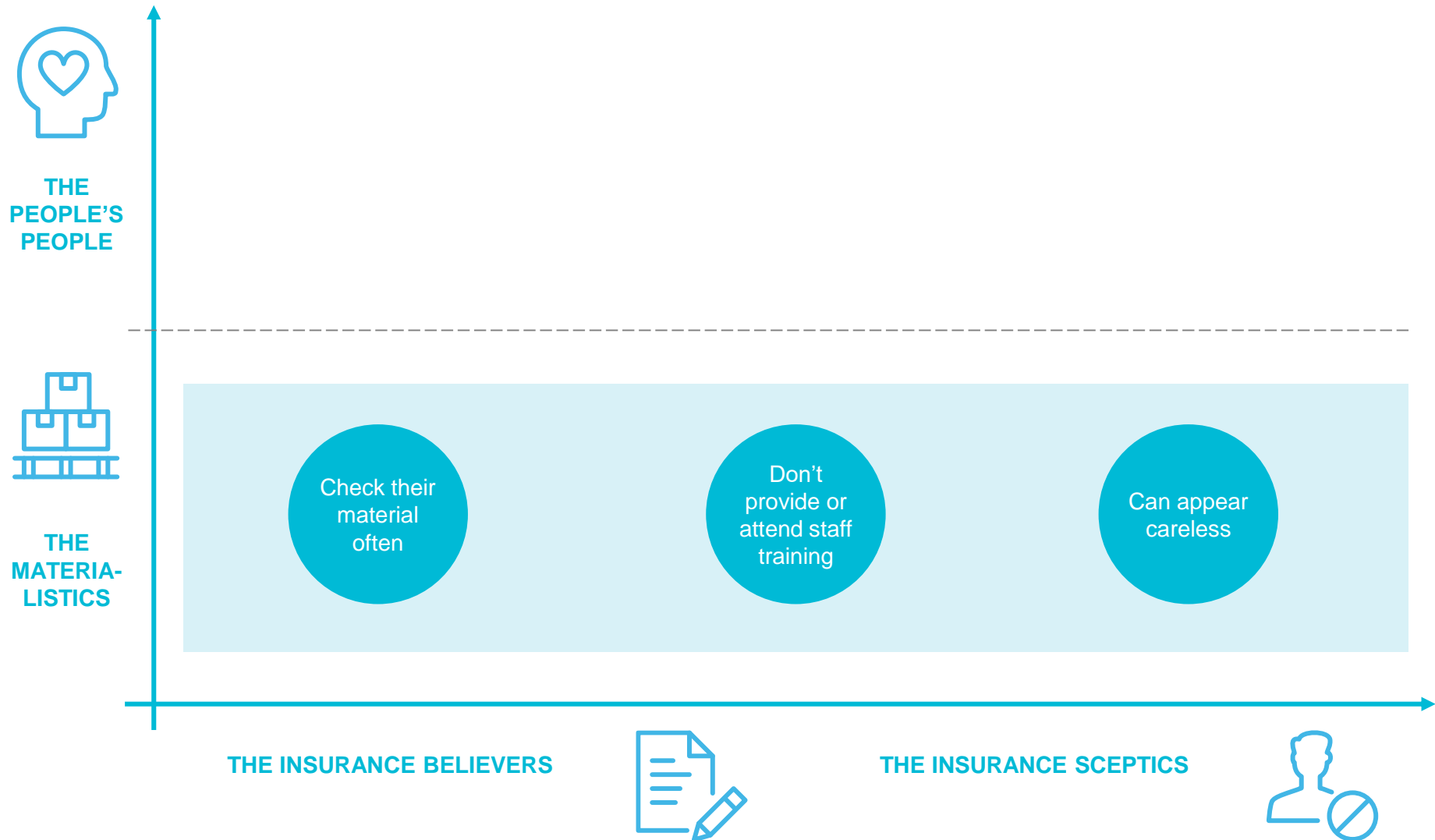
They are more aware of risks that are likely to happen but would have small consequences if they were to happen. Fire is the exact opposite.

Their personality defines their behavior

Some care mostly about their employees & their families

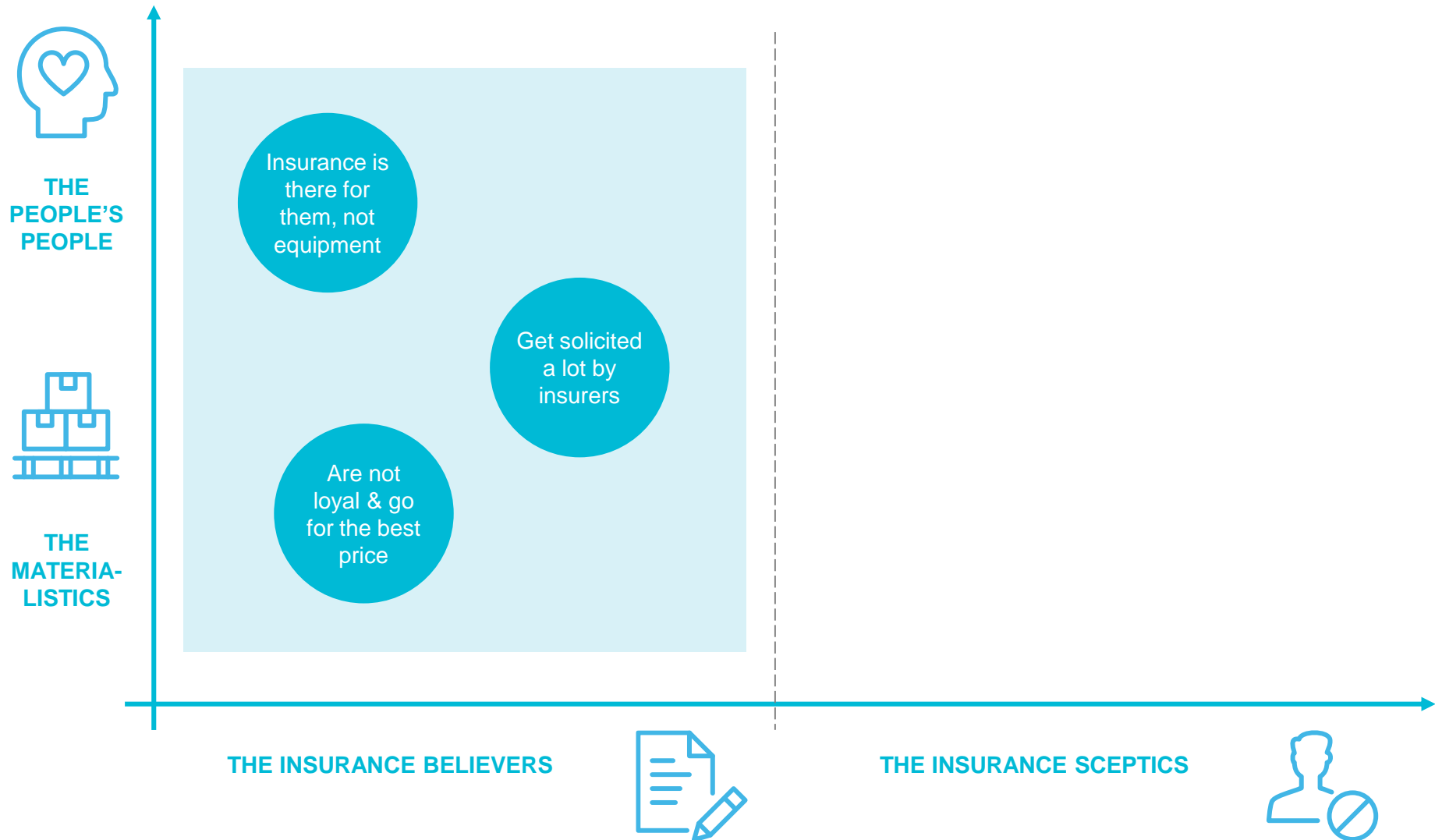


Their personality defines their behavior
Others focus on the value that their machines produce



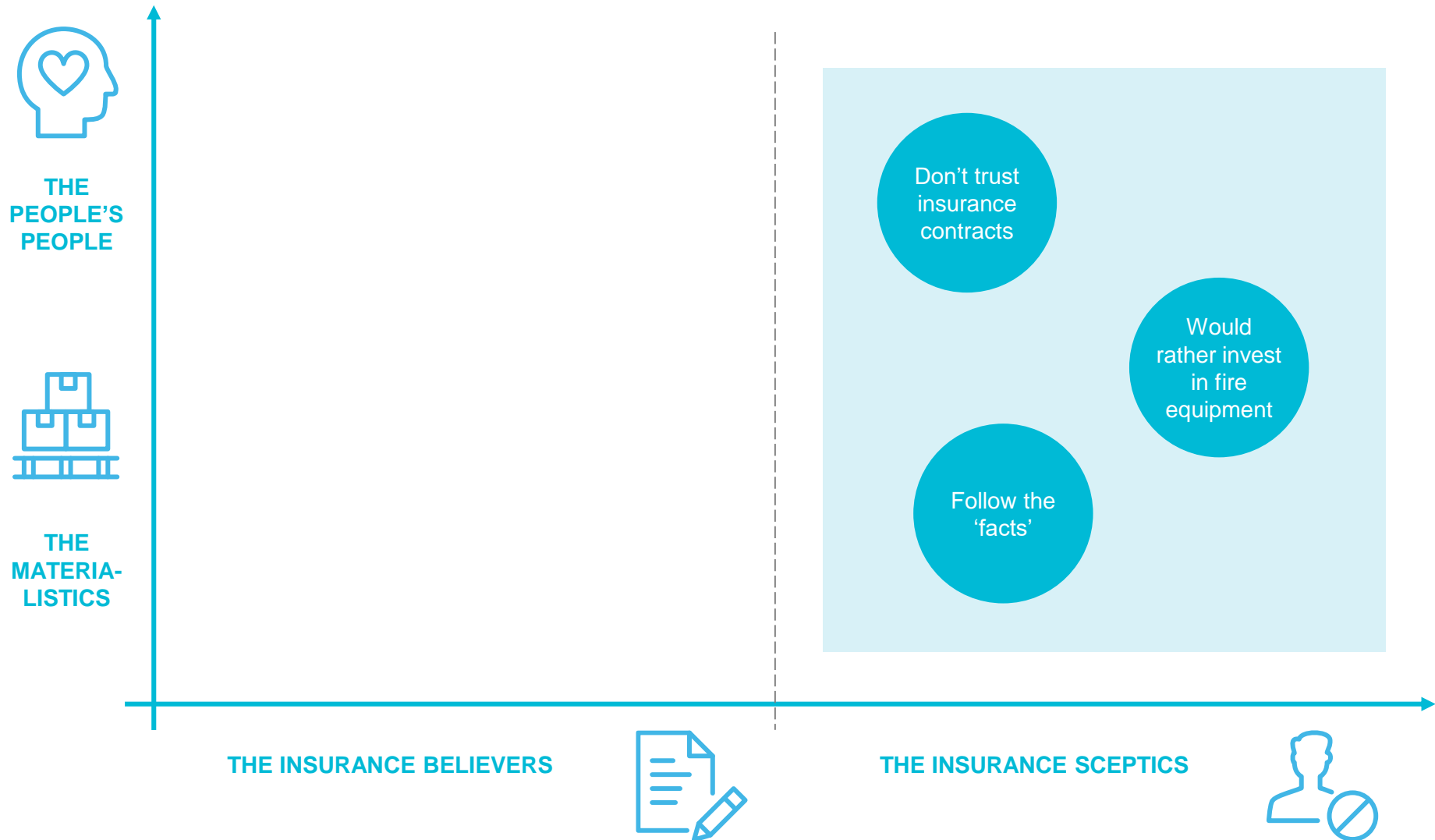
Their personality defines their behavior

Some believe the insurance payout will fix everything post accident



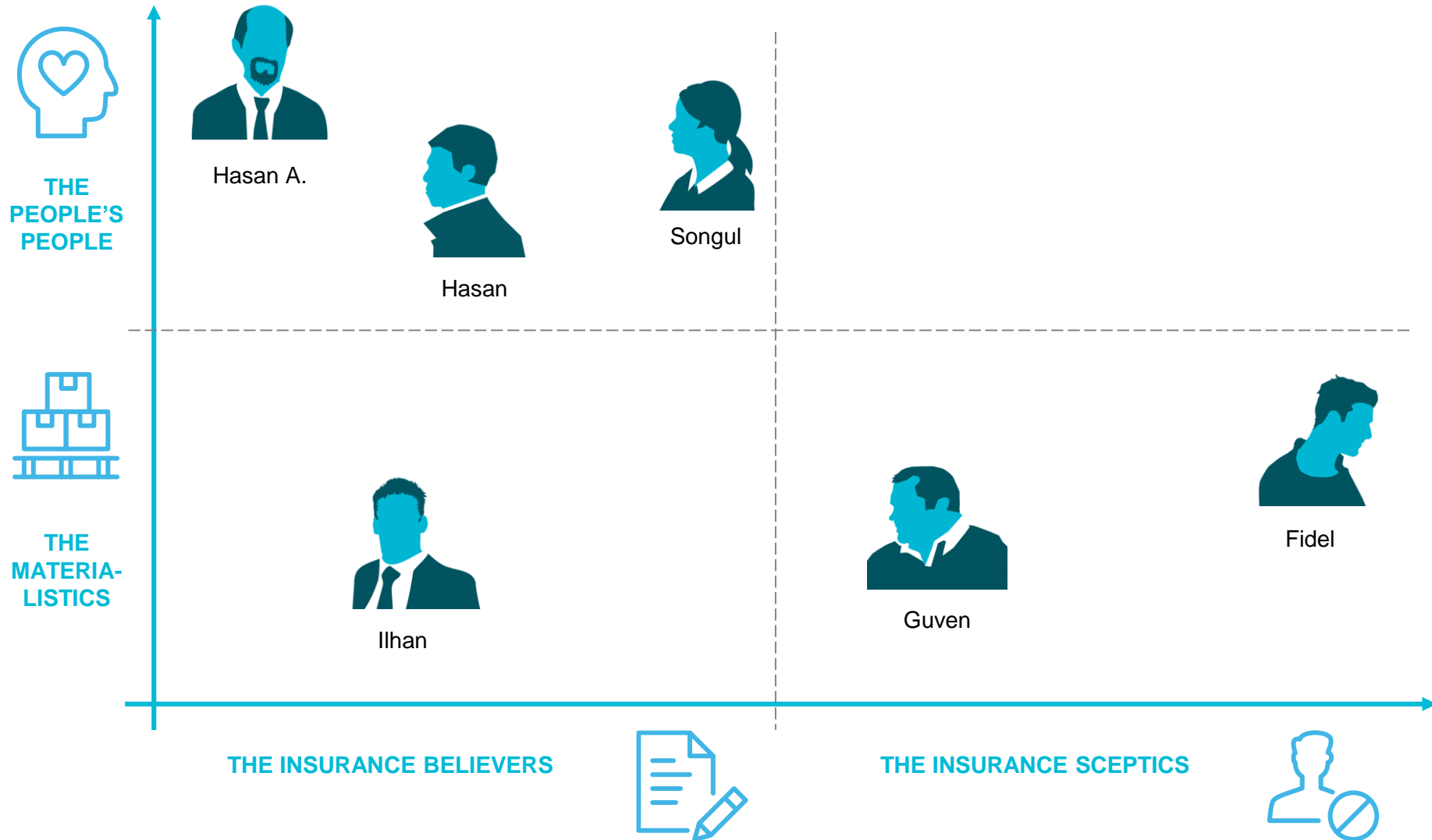
Their personality defines their behavior

Others believe in preventing a fire from happening in the first place



Their personality defines their behavior

Insurance is not the default for all



So what?

SME owners in Turkey need unconscious help



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Some SME owners are already convinced about the need for protection, but their protection is extremely minimal

Many owners operate unsafe factories and, if not prompted by clients, they will not spend the time or money to improve the situation

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NOW YOU CAN HAVE A LOOK AT OUR
TECH SCOUTING FOR INSPIRATION

