



MrF X Nexus Company LLC

— SENSING & MEASUREMENT SYSTEM · COMPANY PROFILE

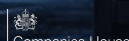
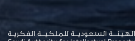
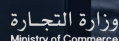
X-Bio Sentinel

The senses of a site: human readiness and the air of the place

One system in two parts — Misbar, which checks a worker's vision, hearing and attention before the shift, and Shameem, an electronic nose that learns the smells of a site's air — running on the organisation's own devices, with no cloud.

Riyadh

September 2026



One system that senses the person and the place

Misbar is a testing station that measures a worker's sensory readiness before the shift. Shameem is a small sensing device placed on site that reads the air's "fingerprint" — the pattern of its gas sensor's response — and learns the site's smells. Both parts run on site and meet on one dashboard.

7

human-sense domains
in one session

5

temperatures in every
air fingerprint

2

parts in one system

0

cloud connections
required

Every shift starts with two questions

Is the worker ready in every sense? Is the air on site as it should be? The first is answered by routine checks spaced far apart, the second by a human nose that grows used to its surroundings — and neither answers at the moment the decision is made.

2.2 billion

people have a vision
impairment

16 %

of adult hearing loss is
caused by
occupational noise

Familiar

the human nose gets
used to a smell and
stops noticing it
change

One gas

typical meters are built
for one specific gas,
not your site's smell

Sources: World Health Organization (Blindness and vision impairment fact sheet) · American Journal of Industrial Medicine (2005).

THE IDEA

Two senses for one site

One part checks the person before the work begins, the other reads the air where the work happens — and both answer at the same workplace door.



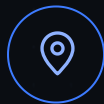
Misbar · human senses

Vision, hearing and cognition in one session, with a readiness decision by job role.



Shameem · the air of the place

A fingerprint of the air at 5 temperatures, and an odour library your site builds.



One system

Both parts run on site with no cloud, joined by one dashboard.



The human sense: a Misbar station where the shift begins



WHY IT IS ONE SYSTEM

Two parts, one idea

Both parts are built on the same four rules, so they speak one language to the organisation and wear one identity.



On site

Analysis and results stay on the organisation's device — no internet, no cloud.



Every result with its confidence

No verdict is shown without its reason and an indicator of its reliability.



Written rules

Decisions follow rules you can review at any time — not a closed model no one can explain.



Learns your site

Your job profiles in Misbar, and your site's odour library in Shameem.

شميم وسبار X-Bio Sentinel

منظومة الحواشي والقياس · MrF X Nexus

X-Bio Sentinel

منظومة حشيتة واحدة يعضون يعملان على هذا الجهاز بلا سحابة: وسبار يقيس جاهزية حواشي الإنسان للعمل، وشميم يلتقط بصمة هواء المكان.

العضو الثاني · هواء المكان

شميم

أنف إلكتروني على عقدة بحساس غاز: بصمة غير درجات تسخين متتالية، ومكتبة روائح يبنها المشغل، وتمييز يقول «جديدة» حين لا يعرف.

عن شميم افتح الكونسول

مؤشر راحة من حساس غاز واحد — ليس جهازًا طيًا، ولا يحدد المركبات كيميائيا، وليس كشف غاز معتمدا.

العضو الأول · حواشي الإنسان

وسبار

نظرة وسمع وإدراك وألوان وتباين ومجال بصري في جلسة واحدة، بتقرير واحد وقرار جاهزة لكل فرد بحسب ملف وظيفته.

النظارة التقرير افتح المحطة

مؤشرات جاهزة للعمل — ليس جهازًا طيًا ولا يقدم تشخيصا، والقراء المبيغ عليه قرار الحية.

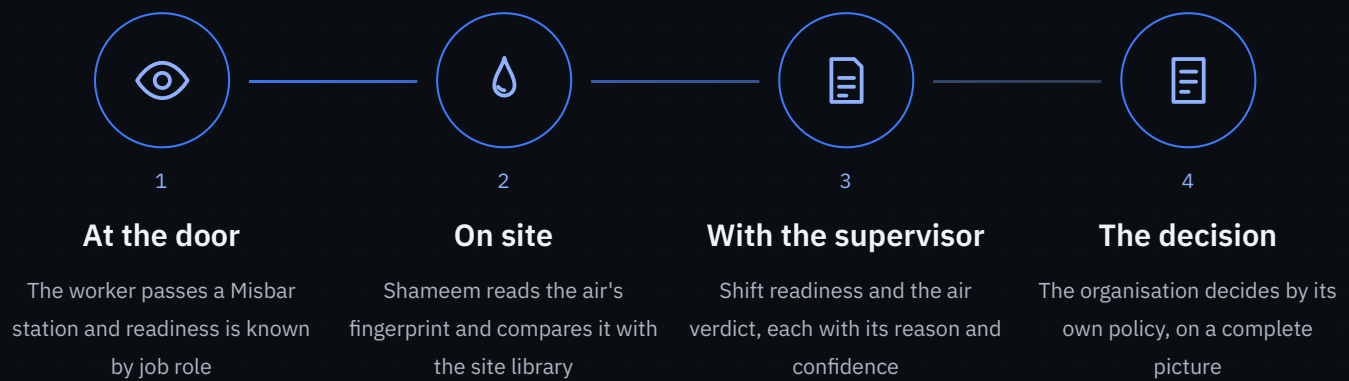
From the dashboard: both parts in one interface, each pointing to the other

X-Bio Sentinel

05

WHAT THE TWO SENSES DO TOGETHER

A shift that starts with both questions answered



What the person misses

The human nose grows used to its site over time — **Shameem does not**; it compares every fingerprint with the site library and says “new” when the air changes.

What the place misses

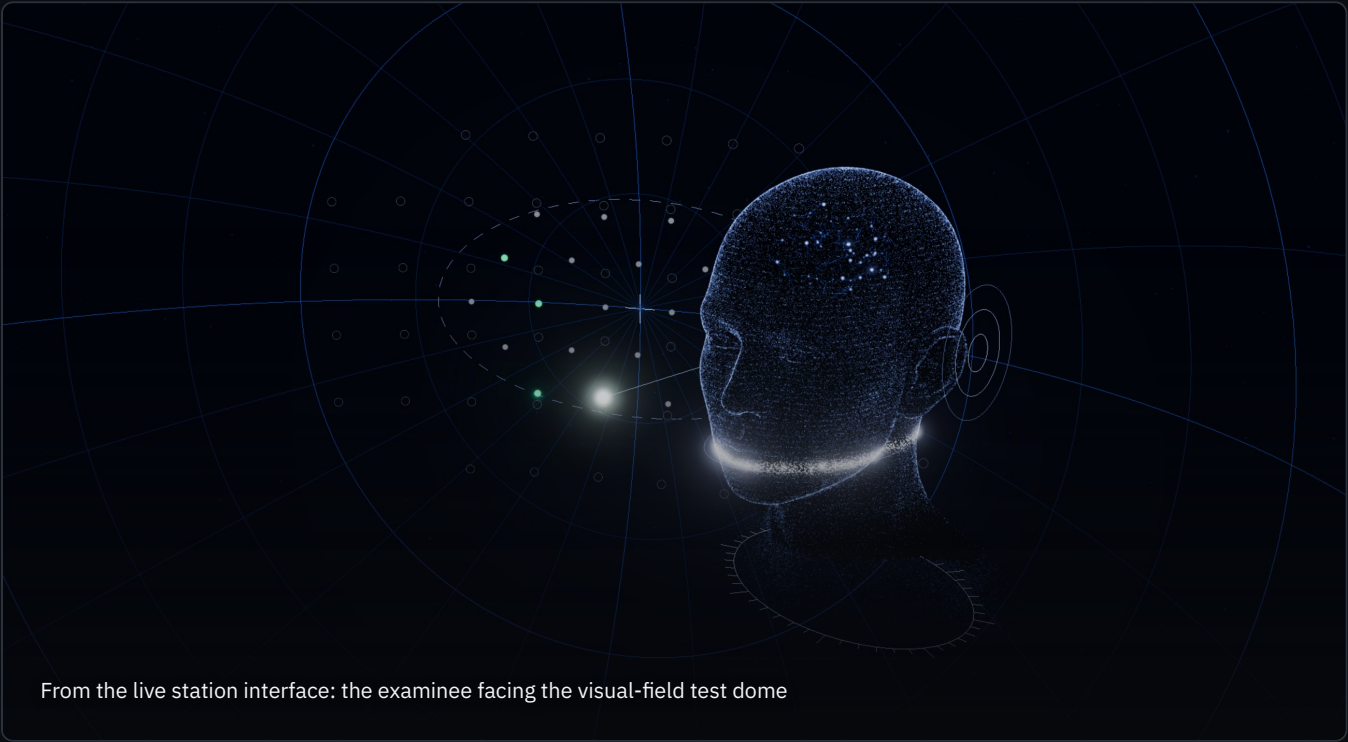
Shameem's device reads the air but knows nothing of the people working in it — **Misbar does**; it measures sensory readiness before the shift, by job role.

- One supplier for both parts
- One field pilot on one site
- One safety team runs both



PART ONE · HUMAN SENSES

From set-up to a decision in one session



From the live station interface: the examinee facing the visual-field test dome

- Fit for the role
- Retest
- Incomplete
- Refer to a specialist

Where workers take turns at a shared station, nothing of one person remains for the next.

PART ONE · WHAT IT TESTS

Seven domains in one session



Visual acuity

Each eye separately, with the optotype adapting to the examinee's distance.



Color vision

Fresh plates every session, so answers cannot be memorized.



Contrast sensitivity

Reading faint symbols, as in fog and at night.



Visual field

Mapping the edges of vision through a VR headset.



Stereo vision

Perceiving depth and distance.



Hearing in noise

Understanding Arabic digits amid noise.



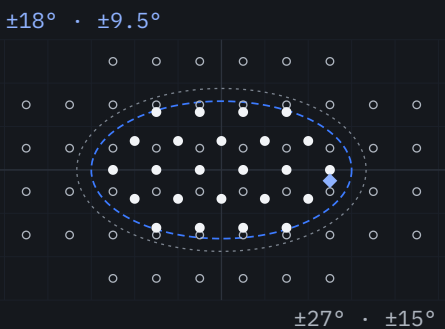
Attention & reaction time

Speed and accuracy of decisions.



One report

Every domain on a single page, with the readiness decision.



From the actual test plates: visual-acuity levels and contrast steps, and the visual-field test grid.

— PART ONE · THE PLATFORM

A laptop, a VR headset and headphones

Built from the camera to the report, and all of it runs on the organisation's device with no internet.



A camera set-up

A guard, not a recorder: distance, posture and light, checked on the device.



A VR headset for the visual field

Each eye separately, and no measurement is accepted unless the head is still.



Hearing in Arabic digits

Digits amid matched noise, on a scale that adapts to the answers.



Plates that can't be memorised

Fresh colour plates every session, unreadable by brightness alone.

✓ PIN-protected supervisor board

ⓧ Shared use that leaves no trace

📄 One report with its reliability

📺 1199 automated tests before every release

PART TWO · WHAT WE BUILT

From the chip to the screen

We built all of it ourselves: the device's software, a control panel on the computer, a phone app, and the smell library.



The device

A small board we programmed, with a gas sensor: 5 fixed heating steps, one fixed protocol.



The computer

A live control panel that captures, saves, trains, recognises and explains each verdict.



The phone

An app that connects to the device like the computer, to capture in the field.



Smell library

Your site's smells, a model trained on them, and a search for the closest known smell.

THE DECISION ENGINE IN THE CONTROL PANEL

- Never judges an unsettled sensor
- “Not sure” instead of a guess
- Shows what it confuses
- Says what it resembles
- Asks only when it helps



PART TWO · THE AIR OF THE PLACE

From plugging in to recognition



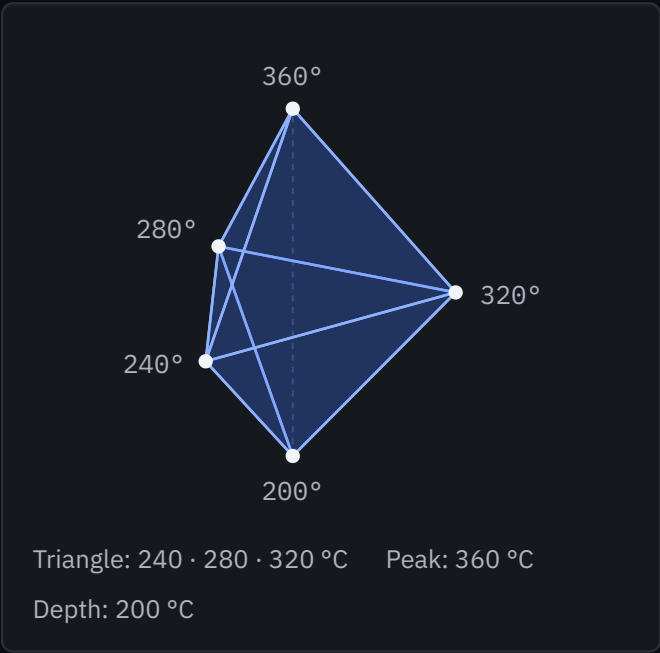
- Ready to sniff
- Needs airing
- Heat-cleaning the sensor
- Wait for stability

The sensor heats its element from 200 to 360 °C through 5 steps, so the result is the shape of the air, not one number; the operator names a smell once and it joins the site's library.

PART TWO · THE INNOVATION

Every smell becomes a solid from its five readings

The five readings become the vertices of one solid: three draw the triangle, one raises the peak and one sets the depth. Its size tells the strength; its proportions tell the kind.



What it resembles

Shapes compared at equal size, so the kind shows at any strength.

What it overlaps

The shared volume of two solids: shape and strength together.

What it could be

Known smells ranked nearest first; “new” when under a quarter is shared.

From the real library: the Mixed cigarette smoke solid is 32% of the Clean air volume and sits almost entirely inside it, with nearly the same shape (resemblance 97%) — the smoke lowered the resistance at all five temperatures.

PART TWO · WHAT IT READS

What Shameem reads in the air



Resistance

Gas resistance at every temperature.



Ratio to clean air

Compared with a clean-air reading taken at the start of each session.



Curve shape

Step differences, range and the strongest response.



Conditions

Humidity, temperature and pressure — so they aren't mistaken for smell.



36 values from every reading

Extracted in a fixed order for the model to learn from.



Saving rule

No reading is saved before the sensor settles and every step is valid.



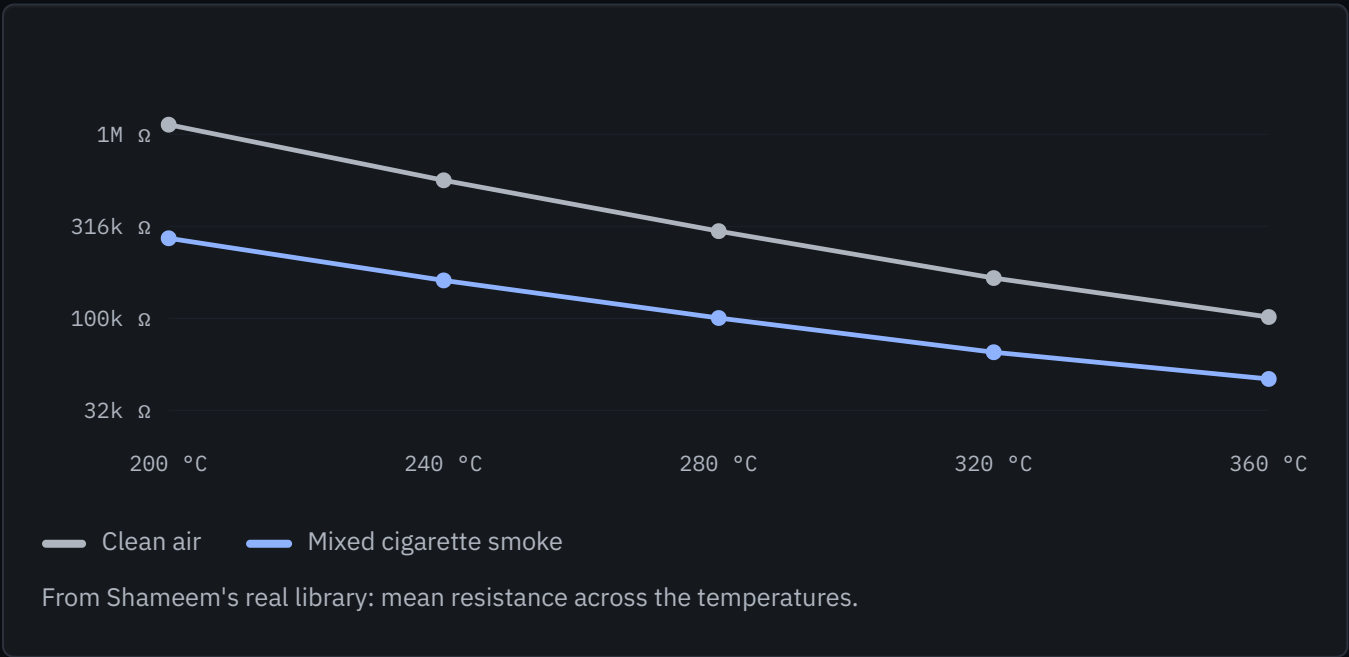
Sittings

Smells are recorded at separate times, so recognition is tested on readings the model has not seen.



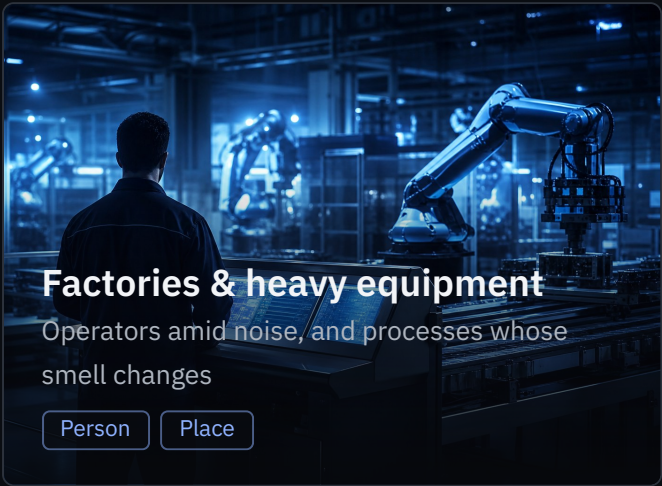
The new

Anything far from all it has learned is marked “new”, not forced into a class.



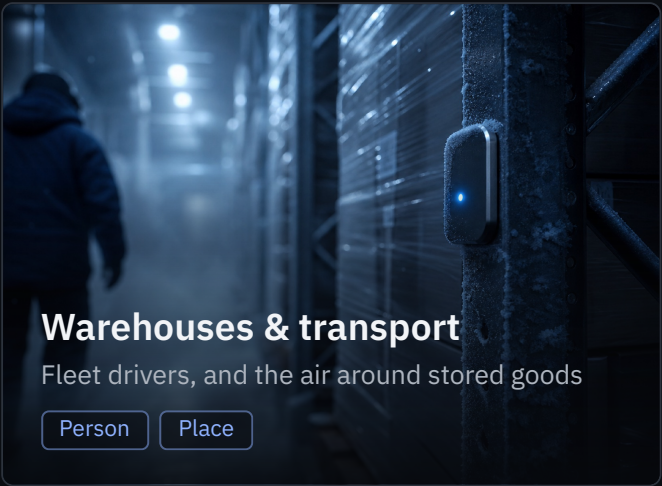
— WHERE IT WORKS

Where there is no room for error



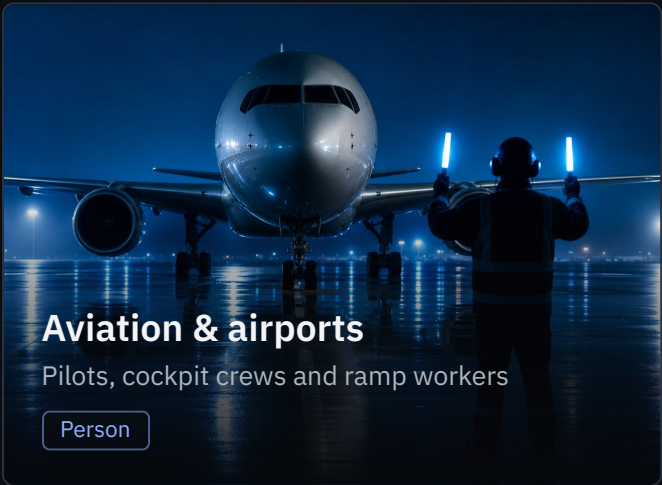
Factories & heavy equipment
Operators amid noise, and processes whose smell changes

Person Place



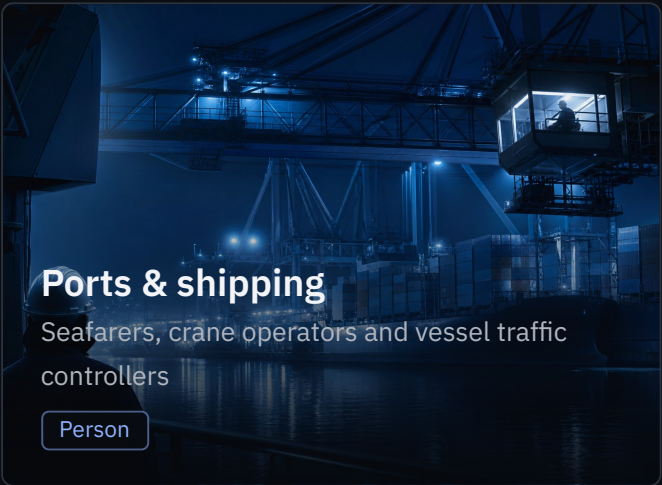
Warehouses & transport
Fleet drivers, and the air around stored goods

Person Place



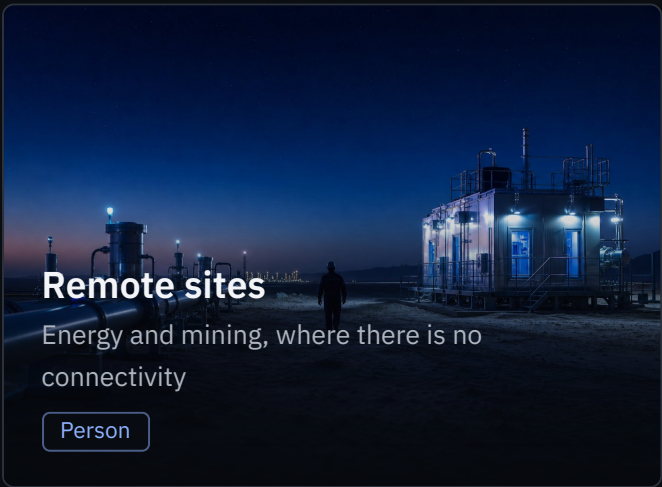
Aviation & airports
Pilots, cockpit crews and ramp workers

Person



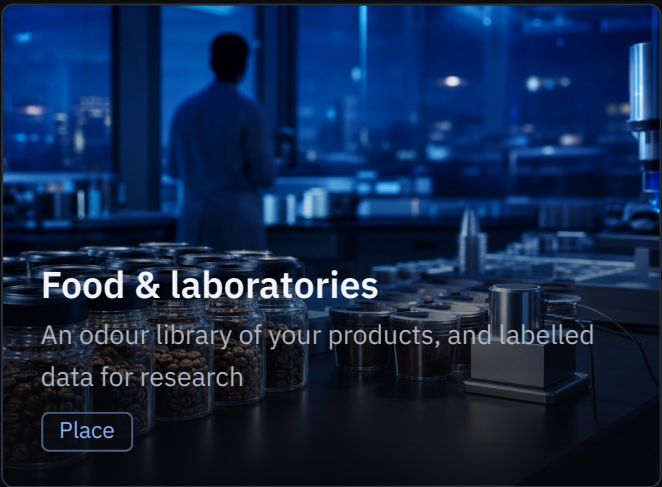
Ports & shipping
Seafarers, crane operators and vessel traffic controllers

Person



Remote sites
Energy and mining, where there is no connectivity

Person



Food & laboratories
An odour library of your products, and labelled data for research

Place

Also: border crossings and checkpoints · buildings and facilities · telling smoke traces from clean air. Shameem's library is prepared with each site's own odours before go-live.

THE DIFFERENCE

Four reasons it stands apart



Two senses, one principle

Human readiness and the air of the place, from one supplier and in one language.



A 3D scent fingerprint

Every smell becomes a solid from its five readings, telling what it resembles and what it overlaps.



Arabic by design

A hearing test built on Arabic digits, and interfaces written in Arabic rather than translated into it.



Honest and private

No judgement on what was not measured, no cloud, and the data stays with the organisation.

● The usual route

- Off-site testing at long intervals
- A device built for one gas
- Results without a confidence indicator
- Processing off site

● With X-Bio Sentinel

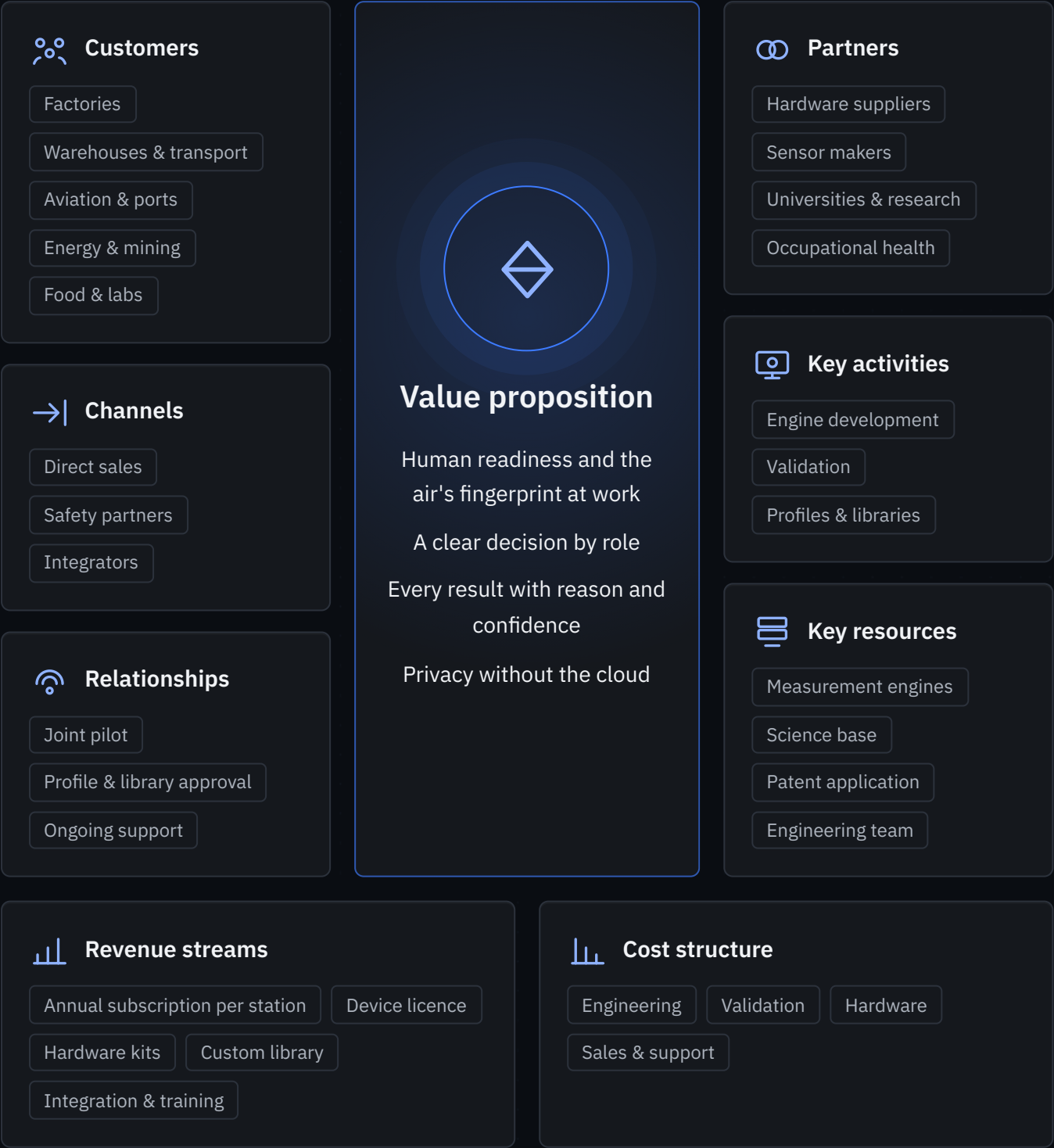
- At the worksite, before the shift
- A fingerprint of the whole air
- Every result with its reason and confidence
- Analysis on the organisation's device



The operator sees fingerprint, verdict and reason on one screen

— VALUE

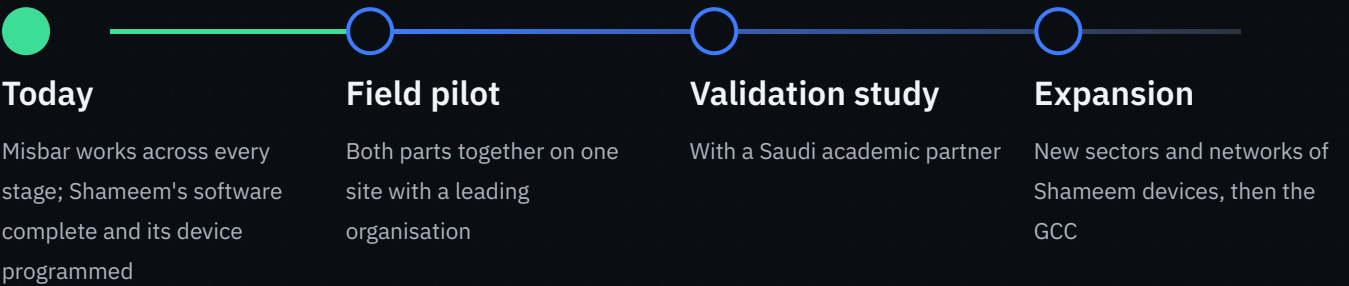
How the system creates value



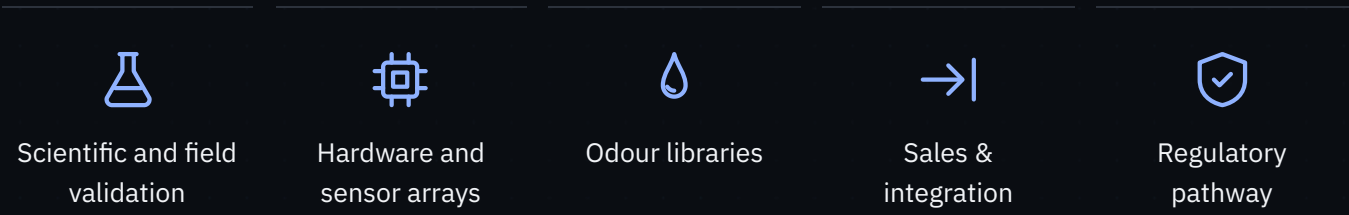
Pricing and contract terms are agreed with each organisation.

THE OPPORTUNITY

A ready system for its first field



WHERE THE INVESTMENT GOES



A patent application for Shameem is filed with the Saudi Authority for Intellectual Property: SA 1020262623

For a live demo of the system and the financial details

We will meet you on site, with a Misbar station and a Shameem device.

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MrF X Nexus Company LLC

X-Bio Sentinel — the sensing and measurement system: Misbar for human senses, Shameem for the air of a place

Headquarters · Riyadh

MrF X Nexus Company

Limited liability company · Jarir District, Riyadh

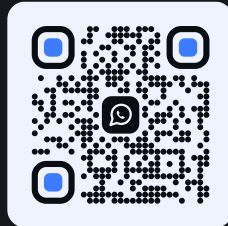
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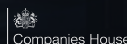


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X-Bio Sentinel is a system of indicators: Misbar provides work-readiness indicators and Shameem provides odour indicators. It is not a medical device and does not provide a diagnosis; it does not identify chemical compounds and is not a certified gas detector. Any decision based on its results is the organisation's own, under its own policy.



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