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symBIONTTM

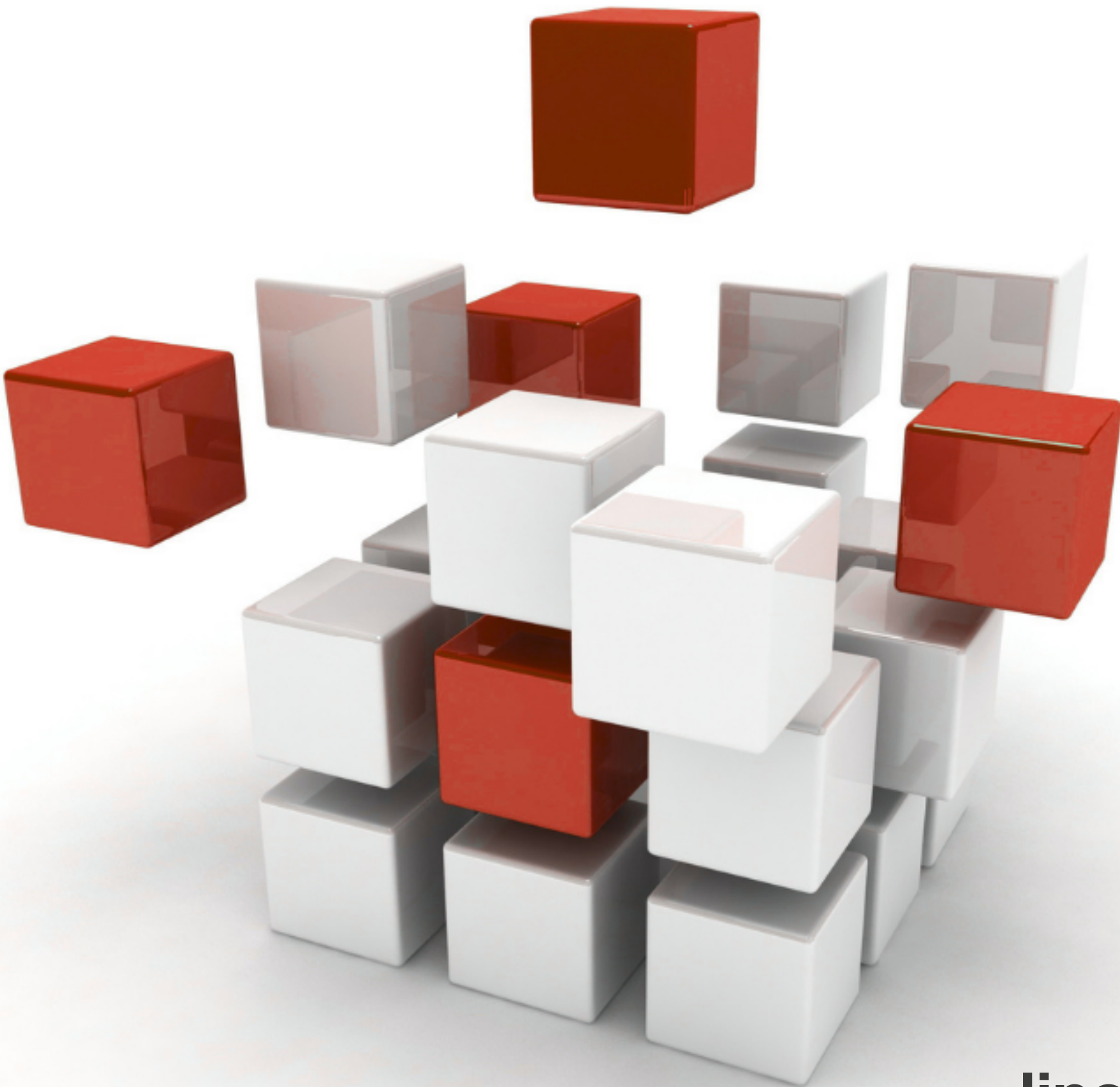
by LinchpinTM magazine

THE

capability

edition

Featuring Linchpins advancing the life sciences industry in geographies or contexts that have been overlooked for far too long



linchpinmagazine.com



Linchpin (noun)

/ˈlɪn(t)ʃpɪn/

A pivotal force that holds a group, enterprise, organisation, or system together.

*sym***BIONT** (noun)

origins: Greek (symbiōn)

people and companies building the capability, infrastructure, technologies, and systems that advance human and animal health.

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editor's note

*t*here is a term for the grouping of countries outside what has been tacitly defined as the centre in geopolitical and commercial terms: Rest of the World. The framing depends on what the centre is to the person working the spreadsheet. It's used not necessarily to discriminate, but for expediency.

In the life sciences space, a Rest of the World categorisation often refers to Africa, West Asia, Latin America and much of Asia. Most of these are

geographies that modern pharmaceutical capability and self-sufficiency left behind, underinvested and underserved.

What is often ignored in these conversations, or relegated to a footnote, is how much these regions have contributed and continue to contribute to the modern world. Whether it is the manuscript libraries of Timbuktu, or Al-Azhar in Cairo teaching without a break since the 10th century, or the teachings of the Aksumite civilisation or Southern and Central Africa's pre-colonial oral and craft-based knowledge systems, the wealth of accumulated knowledge that has passed down through generations here has shaped fields as diverse as engineering, trade, logistics, astronomy, architecture, grammar, and pharmaceuticals.

Drugs for cardiac care, for *myasthenia gravis* and Alzheimer's symptom management, even drugs central to chemotherapy regimens owe their origins to Africa. One of the first modern antihypertensives, which is also one of the first antipsychotics, came from a root used in India for two thousand years. The methods for systematically extracting, purifying, and documenting a compound were brought together in West Asia, where the first pharmacies were opened in Baghdad circa 754.

How fitting then for this edition of symBIONT in partnership with [Pharmaconex](#) in Egypt, that we talk about geographies where the story of who builds capability, and how, is being written now.

Like [Sammy](#), who has spent 18 years building the missing pieces of Nigeria's healthcare puzzle,
like [Haşim](#), whose life's work in contamination control has been driven by curiosity and determinism,
like [Jason](#), who has spent thirty years making cleanrooms safer and giving everything he knows away,
like [Yara](#), whose path started with writing, and who found herself living out a dream she didn't fully realise she was building,
like [Aamer](#), who is asking family-held companies in India to part with something they have never had to price, so the industry they helped build can outlast them,
and like [Pharmaconex](#) itself, where the vision of a self-sustaining Africa continues the march forward into reality.

Each one of our Linchpins is writing a chapter of this story, in geographies or contexts the life sciences industry has overlooked for far too long.

We hope you enjoy getting to know them as much as we did.

– Vinod

volume

seven





against the tide

There's a lot of work for us in Africa.
Massive, massive work to do in Africa. We
are not even halfway where we want to be.

In 2009, a team of endocrinologists in Lagos, Nigeria came together to deliberate how diabetes should be treated in Nigeria. No state or national guideline for diabetes existed until that point. No peer-reviewed guideline. Every hospital had its own protocol; treatment depended on which doctor you consulted. At the end of that week, Lagos State produced Nigeria's first official diabetes treatment protocol.

Before the Lagos State guideline was produced,

funded entirely by Codix Pharma, there had been talks of getting one drafted at the national level, with no success. It involved far too much red tape. Lagos State, always at the forefront of innovation, moved quickly. And some months later, Nigeria also got its first national guideline for diabetes treatment from the Diabetes Association of Nigeria, and it was based on the first.

When Sammy Ogunjimi, CEO of Codix Group, tells this story, he declines any credit. "We were just a tool to bring the people who made it possible in record time together," including Dr Ogbeira at Lagos State Teaching Hospital, Professor Fasanmade at Lagos University Teaching Hospital, and Dr Afokoghene Isiavwe, a leading endocrinologist- all brilliant minds in their field.

The Lagos State guideline had an interesting problem - it called for a blood test, the HbA1c, the one that reads control across months rather than the reading of a single morning. At the time, HbA1c testing was not readily accessible in Nigeria. So Codix started importing analysers.

Eighteen years of solving one thing and finding that there was another equally compelling one to solve lurking underneath, a permanent Sisyphean state. It is the shape of Codix's DNA, sequenced repeatedly in its natural form.

Sammy talked to us from the UK, where he's spending a few days, "an escape, just for a short while, before I

Sammy Ogunjimi
CEO, Codix Group



go back again to the battle."

The battle he speaks of is Nigeria's healthcare puzzle, in which his Codix Group is a consequential actor.

the no he wouldn't accept

His story is usually told as a homecoming. A successful Nigerian pharmaceutical executive comes home because his country needs him. It's been written about enough times to be established lore.

But the real backstory is far more telling. Sammy didn't plan on leaving Merck, where he had spent the better part of his formal career; he wanted to bring Merck to Nigeria with him as his career development plan. He was already on his final salary pension and would have happily stayed another five years with the multinational he wanted to take home with him. The UK office sent him to Lyon to discuss it. During the meeting, he realised that what they really wanted was a distributor, not an office in Africa, in Nigeria at the time. He was very disappointed.

"When I get a no, I'm usually not very happy, especially if I feel that it's something that needs to be done and I'm getting a no." It didn't help that he'd risen far enough up the ranks to know what ought to be done for his team but not senior enough to authorise it without permission. "So I knew that I had to have a business where, whatever I feel is right, I can do it without anybody telling me not to do it."

When he told people he was going, a colleague

asked why he was going back to the jungle. He still remembers who said it.

Barrister Oduwobi, who became friends with Sammy when they met in a university hostel in 1983, says "he's very resolute about anything he sets his mind to. He makes up his mind quickly about what he wants to do, and he pursues it with all the vigour that he can muster."

Four decades later, it's still the most accurate account of all that follows - a pattern that comes along often, like the diabetes guideline, the self-financed factory, the training programmes.

who killed longevity

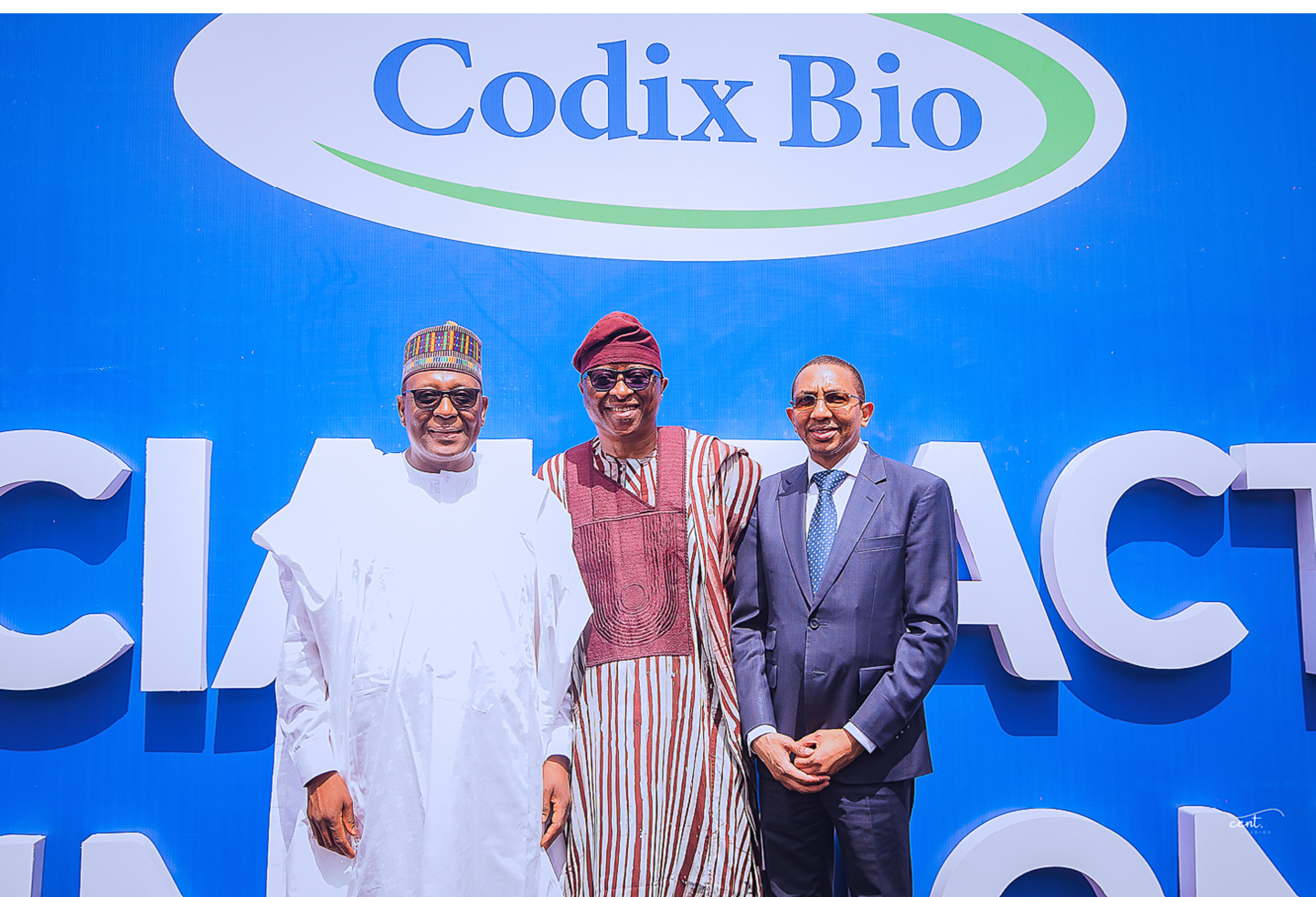
Growing up, every really old person he knew was over a hundred. "Old people who weren't going anywhere". Something that changed significantly in his own lifetime. Folks used to stop counting their years after a certain point; but here they were dying of stroke, heart failure, diabetes and their complications before they could celebrate their seventieth birthdays. "Seventy used to be young." He's clear about the sheer scale of the problem that Nigeria and the larger African continent have to tackle. Disease patterns. Emerging diseases. A problem bigger than the sum of all its parts.

During his time at Merck, he witnessed first-hand as Merck and Roche built an entire speciality out of thin air, seeding heart failure nurses across London

until they became practitioners. His own project in collaboration with a nurse from London Chest Hospital was to design a course that trained them. "If Nigeria had these interventions, my aunts wouldn't be having strokes without knowing they had diabetes or hypertension before."

He always knew that whatever he did back home in Nigeria would revolve around cardiometabolic care. Nigerian companies were focused on antibiotics, antimalarials and painkillers at the time. It was a field he knew from the inside.

At Merck, he also learned to think in outcomes. A sustained-release medication launched because patients who did well in hospital often messed up dosages and fared badly at home. "Not just a patient going to see a doctor", but the ecosystem working together for a favourable outcome. He knew what was missing back home in Nigeria because he'd seen what was in the UK.



two cars, one car

There were decisions to be made. He says twice that his wife, Elizabeth's agreement was the condition the whole thing rested on: "having her support on that journey was the most critical. And without that, I don't think it would have been possible." They had a child in private school, so the fixed point became their fees; everything else worked backwards from that number. Two cars could become one car. There could be fewer holidays. Income wouldn't necessarily arrive on schedule.

He mitigated as much risk as possible by setting up a consumer sexual health company that also helped fund his initial efforts in Nigeria.

Codix Pharma saw life in 2008 as an importer, something Sammy was an old hand at. All through his twenties, he tried his hand at a number of trades - he sold cars, trucks, second-hand refrigerators, scouting for things that would sell on his trips home to Nigeria.

The trading stopped when Merck hired him in 1999, but it gave him an edge in 2008. He's clear to make a distinction between the two, though. His earlier trading, he says, was to make money and cover expenses. It was hardly a business.

trading places

Barrister Oduwobi talks of how Sammy used to say that the day he left Merck, he would build a company

in Nigeria. When he did, Oduwobi filed the paperwork for him.

The early years were complicated. Sammy was in London, and the company was in Lagos, and operational struggles took a lot out of him. Oduwobi saw him dust off each setback, infusing in the team a drive to push onward despite it all.

One of the early products Codix imported, blood glucose strips, was a defensive choice, because it sold to private enterprise. "It was survival for the business and sustainability for the future." The public market involved lobbying for tenders, and then lobbying to be paid, red tape he has little patience for. The first product that mattered was a malaria test kit, which drew international attention long before anything else did.

He could have stopped at distribution. But in Nigeria, where every few years, the naira would turn, and the foreign exchange market would seize, a business that imported everything would need dollars for all of it. The Central Bank will supply 5 per cent of the foreign exchange, and the rest has to be sourced from parallel markets; the import business can quickly become a survivalist game. Despite this, he says, distribution is easy.

Manufacturing, when Codix came to it in 2023, wasn't as much about African self-reliance as it was about currency arithmetic. To import a finished product, you need a whole dollar; import the raw materials to



make that product, and you need 50 cents. Export the product and you earn foreign exchange. It was a way to stop the bleeding that quickly became the heart of Codix's capability strategy. Import less, make more.

When Covid arrived, Codix imported vast numbers of antigen test kits, all while the government was still in denial. PCR was unaffordable and slow, and people went home, waiting for a result that came long after they'd passed on the infection to those around them. Things changed only when prominent Nigerians started to die. That's when the absence of a manufacturing ecosystem really hit home. At that point, the plant stopped being a hedge. Sammy poured personal resources into building a factory with another partner.

the missive to Geneva

During Covid, the world spectated at inequity in

vaccine availability for Africa and much of the global South - a fault line of broken supply chains. The pandemic held up a mirror, and the reflection was ugly. The WHO's C-TAP, the COVID-19 Technology Access Pool, was born from that reckoning. When C-TAP evolved into the Health Technology Access Pool (H-TAP), it also changed the conversation about local manufacturing from a polite aspiration to the crux of African manufacturing self-reliance discourse.

Codix had already engaged South Korea's SD Biosensor long before H-TAP became the buzzword in Geneva. But Sammy is not a man for half-measures. He used the H-TAP framework, brokered by the WHO and the Medicines Patent Pool, to formalise the deal and to megasize it.

It was an ultimatum in the inverse, Sammy's very own UNO reverse card.

Sammy wrote to USAID explaining why Codix had the capacity to make rapid diagnostic kits but would not make them. Not unless he was guaranteed a buyer. The letter travelled further than he expected and came back via a fellow Nigerian at UNITAID who refused to believe there was an in-vitro diagnostics factory in Nigeria. He flew down to look and found the machines exactly where the letter said they'd be.

The Medicines Patent Pool and SD Biosensor brought Codix Bio into the fold, turning the Sagamu plant in Ogun State into the first partner factory under the WHO programme. The stepping stone was a Change

Notification approval in January 2025: sister company Colexa Biosensor would package an already WHO-prequalified HIV test at its Lagos facility, the first time, by his account, anyone had done that in Africa. That was the foot in the door. By May 2025, the larger H-TAP sublicensing deal was commissioned at Sagamu, with technology transfer for rapid diagnostic tests covering HIV, malaria, hepatitis B and C.

Sammy is more careful with his own claims than with what has been written about him or Codix. "We can't say we're the first to do anything, because we don't know what people are doing in the laboratory." First commercial rapid test factory in Nigeria, then, and probably in West Africa.

But as is the case with the Africa capability story, a spanner in the works wasn't too far away. And it came, predictably enough, via the slashing of USAID and PEPFAR funding, which threw Nigeria's diagnostics pipeline into crisis. The plant stayed open, rated for 147 million test kits a year, though running nowhere close to it, because volume, as he says, does not come early enough. Sammy's goal remains full WHO prequalification of Codix's own Haraka Q HIV test kit. But the immediate victory was that when the aid taps were turned off, Nigeria (and Africa) had a tap of their own.

an army for codix

Setting up the companies was one thing, staffing

them quite another. There weren't enough skilled technicians for in-vitro diagnostics, biosensors, and nanotechnology. So he expanded the scope of Codix Academy, originally set up to upskill healthcare professionals in in-vitro diagnostics and, more broadly, on the latest technologies within the diagnostics space. He collaborated with the Vice Chancellor at Olabisi Onabanjo University, his old university and faculty at Cranfield University to develop a curriculum that would be taught for the first time in Nigeria, possibly even West Africa. The programme was



approved by the National Universities Commission - one elective across two semesters. Some five hundred students have already been through the programme; some have interned at the Codix factories; a few have been hired. "We had to do that, to show the world, to

say, 'Select us. We will find the young people, we will do this and all that.'"

He sees the people work across the Codix group as an army. Anyone who sees money as anything but a result is in the wrong building. "Life has to be bigger than that." An army, he says, will go to battle to protect people. Tolulope Ettu, who is sitting on the call with us, is proof. An MBA from the UK, she came home to build a brand communications department that Codix never had.

Professor Lere Baale, who has known him for years, describes the shift as a founder learning to work through other people rather than through himself.

puzzle box

For years, Sammy has been piecing together the Nigerian healthcare puzzle, but the box didn't come with puzzle pieces; it came with a make-the-pieces-yourself kit. The factories run. But on things made outside Nigeria. Raw materials come from China, passing through India or South Korea to get to Nigeria, accumulating duties and freight along the way. By the time a pre-made cassette reaches the line, it's lost six to twelve weeks of shelf life. The landing cost is far worse than a competitor's before anyone has even done any work.

For years the arithmetic didn't add up. A finished product imported from abroad attracted duty of nothing to five per cent. The equipment you needed to

make that same product in Nigeria attracted twenty to thirty. The state was, in effect, paying manufacturers not to manufacture.

Executive orders have taken duty on manufacturing equipment and raw materials to zero, and Sammy credits the Minister of Health, Professor Pate, without hedging it. When Codix commissioned its plant, Pate left a Global Fund board meeting to come and open it.

Less expensive local labour offers no benefit, especially when the competitor is a colossus like Abbott. "For every one of you, there's probably 100 of them." When the WHO opened the door for technology transfer, Abbott, who by his account supplied almost 95 per cent of the continent's tests, objected. Commercially, they had a point - why arm a rival? But it was the real objection underneath that got under Sammy's skin, and it wasn't about protecting market share at all. "They thought we didn't have the brain, the capacity to pull this off." It's the only time during the whole interview you can hear the steel in his voice. "That sort of thing just angers me, because I am African. I lived in the UK, I contributed in the UK, I made things happen in the UK, as an individual. So why can I not do it back home?"

Since Codix Bio, several multinationals have begun packaging on the continent, and there are three more diagnostics factories going up in Nigeria alone. "If we hadn't done it, they wouldn't have done it."

The next puzzle piece is an accessories plant,

and following that, the raw materials themselves. Accessories first, because they are simple to make, because both factories need them, and because nobody in West Africa is making them. The raw materials themselves after that, from 2027.

He sets out to solve one problem and ends up solving twenty-three.

Ahmed Yakasai, who led the Pharmaceutical Society of Nigeria and has watched the industry for decades, puts the credit at about the same setting. "Sammy did not create these changes alone, but he has certainly



been one of those who anticipated them, adapted early, and, in several respects, helped accelerate them."

what the world wants

The argument he makes about test kits is the argument he makes about everything else. "Africa will never be left alone because of the mineral resources that are in Africa. So Africa has what the world wants."

He calls them sellouts, the people who think first about what they personally stand to make from the lithium in their state. A stronger country gets invited in to mine it, and people are moved off the land. Afterwards, the money arrives to help the displaced. "Without necessarily people knowing that they are the ones responsible for the problems initially, originally." The DRC is the example he returns to, because it never resolves.

What he wants is not the minerals kept at home. It is some of the processing done on the continent, with the work that comes with it, and an African Union serious enough to write that into the agreements before anyone buys. Which is the accessories plant argument, at continental scale.

"My experience in Africa is that we talk a lot, and we do very little," he says. "So I'm just hoping that they can just do a little more than the little they were doing." And then: "I pray that some of these things happen in my own lifetime." Sammy is sixty.

The same argument runs at the scale of one town. He took his degree at Ogun State University in 1987. The rapid test factory is in Ogun State. The course in a subject nobody in West Africa was teaching went into the university that taught him. Oduwobi says he has gone back to do community development work alongside the pharmaceutical work, and that there is a trust fund now for academic scholarships and free health checks. A smaller homecoming than the one that usually makes it to the stories written about him.

not even halfway there

Sammy doesn't speak about the cost in the past tense. It is real and in the present. Borrowing to finance raw materials at 30% requires collateral of 120 to 150 per cent of the sum, sometimes 170. Sammy came home from London without property in Nigeria to put against it. "For someone returning like me, coming back from abroad, where will I get collateral from?"

Public sector orders are almost always delayed. WHO prequalification, which donors demand before they buy, costs between 500,000 and 750,000 US dollars per product and takes about three years, because you cannot claim a two-year shelf life until you have two years of data proving it. "It's madness," he says. No African company has that money lying around. He talks about a current situation where all the money put aside from the WHO PQ process is being spent on paying salaries because it's taking a while to get



the malaria test kits approved by NAFDAC. "You know what you said, manufacturing is pretty brutal; trust me, I'm going through it right now."

There is also a particular cruelty in going first. NAFDAC is benchmarking itself upward for diagnostics, toward the maturity level it has already reached for drugs, and Codix is the file it is learning on. "Us being the first one, we're the guinea pig for that to happen." The local process now resembles the WHO process closely enough that an approval which used to take three weeks takes considerably longer.

For a while, what helped maintain the pace was a large USAID order for rapid testing kits, 15 million of them, by his count, the guaranteed buyer his letter had gone in search of. Then along came Donald Trump.

Oduwobi, who has watched him for more than forty years, says the low points do reach him, harder than most people would guess, and that they do not last.

Within hours or a couple of days, he has thrown himself into something new and moved onward.

Three weeks before we spoke, Sammy was in Mumbai, visiting a generics manufacturer. The research campus alone was five buildings, all multi-storied. In a single room, he clocked more analytical instruments than he had seen anywhere. The regulatory department alone housed five hundred. He came away with a sense of scale rather than achievement. "There's a lot of work for us in Africa. Massive, massive work to do in Africa." Roughly the answer he gave when asked about legacy. "We are not even halfway where we want to be."

Before Merck, before Codix, Sammy was fully invested in a career in drug discovery. Thirty years later, the itch has returned. He wants Codix in drugs, not the generics. But the for Africa in Africa kind, that draws on ancient wisdom lost to time and sidelined by petrochemicals. "If I have money and I still have the grace of God, time and energy, that is something that I would like to start to explore."

For now, he has his escape. Then it's back to Nigeria for "the next battle."



first to the standard

The first thing I did before even learning the standard was to purchase iso14644.com

In 2004, a second-year engineering student volunteered to run an errand for his professor. His errand was to find industrial instruments used in meteorology. The university had a partnership with the city, and the equipment had to be sourced. Better than working on assignments, because "I'm also a lazy person."

He wandered all over Istanbul looking in every shop he could find. They showed him everything they had - analogue hygrometers, temperature gauges,

Haşim Solmaz

Vice President of Innovation,
Lighthouse Worldwide Solutions



barometers for sailing, instruments in silver casings, the sort you decorate a hallway or a hotel with. None of it was what he needed. "I always say, no, no, no. I'm not talking about this."

Until he came across a storefront with the words "Meteorological Station" written across it in large type. "Like in the movies," he says, childlike glee splitting his face into a wide smile. "I had never seen someone doing marketing for meteorological stations because that's not what people generally look for. If you have a measurement solution company, you can talk about temperature, humidity, even pressure. But you never say meteorological station." Inside, they had nothing he needed. Fancy wristwatches. Barometer watches, the kind hikers wear. They had put up a sign for a market that did not yet exist. Then the man behind the counter turned the problem round: If Haşim knew who made the instruments he was looking for in America or Europe, he would import them on Haşim's behalf. Haşim Solmaz, all of twenty, found himself negotiating terms. "If you keep the price within our budget, and if you agree to a low margin on each item, I can also assist you in communicating with those people." They gave him an email address to run it from. Within two months, he was on the payroll. He had that email address for six years.

a domain for someday

That same year, he heard a phrase he had never heard before: contamination control. The discipline that

determines how clean a facility must be before you can manufacture medicines inside it, and how you prove it.

Curious, he looked up the rules. The international standard was less than five years old, adopted across Europe in the early 2000s and elsewhere from 2002. New enough, he says, that "most people knew the name but nothing else about them."

He bought the domain name.

"The first thing I did before even learning the standard was to purchase iso14644.com. I said, maybe in the long run I will do something about it."

Roughly sixteen years.

space cadet

Haşim, who has degrees in atmospheric sciences and meteorology, both from Istanbul Technical University, wanted to be an astronaut as a child. The programme he was interested in had space engineering, aeronautics and meteorological engineering under one roof. He meant to transfer, but didn't because he found a job in his second year.

Makes you wonder how a man who has studied air at the scale of continents came to spend his life on air at the scale of a filling line. His response posits that there is no distance at all. He does not look at this as a digression from what he was qualified for because it is the same job: "Meteorological engineering is also

about this measuring of technologies."

In 2007, the importer he joined at twenty came across an American manufacturer named Lighthouse Worldwide Solutions that made airborne particle counters. By Haşim's account, an upcoming regulatory change would make monitoring systems a requirement across sterile manufacturing, and it seemed logical to represent them. He represented them in Turkey for a couple of years. Then he left his job and started a company, which is still active, with iso14644.com inside it. The Lighthouse operation for Europe, the Middle East and Africa began in 2011, and he's been running it ever since. The pieces started to fall into place. First broadly, then narrowing to a specific field, until his focus was taken up entirely by contamination control.

connecting the dots

2015 was an interesting year. Türkiye had started to define the contours of its pharmaceutical industry. The Pharmaceutical Manufacturers Association of Turkey



(IEIS) listed eighty-one licensed manufacturing plants, seventeen owned by multinationals, cumulatively employing roughly thirty-five thousand people. Abdi Ibrahim, the country's largest drug maker, was breaking ground in June on AbdiBio, a hundred-million-dollar greenfield biosimilar facility with fill and finish. In December, the government published its 2016 action plan under the Structural Transformation Programme for healthcare industries, and item 46 prioritised licences for medicines made in Türkiye. Türkiye's regulator, the Turkish Medicines and Medical Devices Agency, was three years into its application to join PIC/S. It would be admitted on January 1, 2018.

Türkiye already had a seat at the ISO Technical Committee 209, which writes the world's cleanroom standards. But "at that time, there was no national society as such. So we said, why don't we just initiate this?"

The Cleanroom Technologies Society of Türkiye was founded that October with thirty-six members in a technology park on the Asian side of Istanbul. "Our aim was to be close to the industry and especially the beneficiaries of cleanroom technologies so we can reach out to their employees and train them."

It wasn't as easy as he makes it sound. People who had heard about contamination control in Türkiye thought of it as an exclusively pharmaceutical industry thing, so he went to industries that didn't know it was theirs too - aerospace, semiconductor, microelectronics. "We try to connect those dots

and say that this contamination control is not limited to pharma applications." Same standard, same measurement, with a different product on the bench.

He applied to the International Confederation of Contamination Control Societies (ICCCS) that same year, received approval by December, and became a member by the first of January. He says it was important to be part of an international organisation or you would be reduced to being a satellite. "Nobody



abroad cares about a domestic position, and it would not carry at home either." It helps that the increasing awareness "makes the pie bigger, and even when you have the same slice, the size gets bigger. That was the whole idea."

He chaired it for seven years before a colleague from his own board took over. By then, the society had trained and certified upwards of three thousand

people, turning subject matter experts into trainers, and was accredited by CTCB-I to run hands-on testing and certifications. He is still on the board, and still teaches.

lighthouse keeper

Which raises the most obvious question, and he brings it up unprompted, while explaining why this couldn't be a company initiative. "This is like being involved with international organisations without a corporate hat." Using the Lighthouse platform would make this a commercial activity and be viewed with scepticism, if not outright suspicion.

His answer is to switch it around. "We try to understand the dynamics between the industry and map out all the needs first. Then after, anyone can solve this problem, including my company." It is an arrangement that is nearly universal in standards work, expertise that sits with the suppliers.



certified to teach

A little-known fact about Haşim is absent from his profile, conference bios, and media coverage, and it comes up unexpectedly in passing as an aside on the Turkish education system.

He went to a teachers' high school.

When he was growing up, you could go to a teachers' school and then spend two years interning at a college. When you were done, you were certified to teach. As an undergrad himself, he taught the practical elements of Fortran at his own university, while his professor taught theory. "I was responsible for the lab sessions, the hands-on elements of the syllabus."

It's a pattern that's obvious up close. He is a teacher at heart.

sixteen years later

When travel stopped in 2020, Türkiye spent the pandemic building sterile capacity at speed and developing its own inactivated vaccine in twenty months. It was approved in December 2021. Now many people needed to learn how to qualify a room, but nobody could go to class.

Haşim brought iso14644.com out of hibernation. "During COVID, I had a chance to convert it to a training portal." A gamified lesson plan with video, quizzes and at the end of it, a certificate with a traceable code. He brings gifts to whoever finishes

first in a company cohort. It now replaces him in a room - when he has somewhere else to be, he'll give it away as a gift. "I am not able to come, but you can have this access code."

He says he's been working to make the standard smaller for twenty years. "I generally spend the longest time to make things simplified. Like a pill for anyone." He gives an example of the classification standard deck he built - the first one ran fifty pages. Now it's twenty. He's trying to fit the whole thing into an infographic, which he wants to add to his last slide as a handy reckoner. "If you feel like it's too complicated, just get this page, print it out, put it in front of you; you have all the information you need."

It's a pattern that's obvious even from a distance. He is a teacher at heart.

the woodworker and his coffee

It shows up even in places that have nothing to do with his work. When he travelled, he went looking for speciality coffees to replace his local brew. When the pandemic broke his supply chain, he obtained a licence to import green beans, bringing them in from competitive auctions, and roasted them himself in hundred-gram batches. He set it up as a non-profit. "It's a real micro operation just to share a good coffee with people". In 2022, he was invited to be a juror at a Cup of Excellence in Guatemala. He likes light roasts, Nordic-style and is wholly unimpressed by trends:



"Still, I'm chasing the best coffee. I couldn't find it yet."

He also has a workshop where he built a desk for his son using chestnut planks salvaged from an old house. A table made of soda bottle caps that his friend collected, set in resin. The why of it all is just as interesting: "It's a great way to clear up the mind and generate some cool things."

deterministic realist

Asked what he would say now to the boy who would be an astronaut, he is circumspect. "There is a very small difference, a very narrow difference between being deterministic versus being realistic. So I was quite deterministic. That's why I end up in this faculty. I am super happy with it as of today. But being realistic might bring me to another destination." He paused at this point, ruefully adding, "I'd like to give another thought on this."

Curiosity that arrives before a need presents itself will always need more than two hands to contain everything. Does he have the same twenty-four hours as everyone else? "That's why I have to, like the coffee business, drop some of those things. Even if I don't want to, I have to."

Since May of last year, he has been vice president of innovation at Lighthouse, while still running the EMEA operation. And since 2022, he has been Secretary General, then Chairman, of the ICCCS, taking the chair early when his predecessor resigned mid-term. He's also building a programme with CPHI. He is the keynote speaker at Pharmaconex's Cleanroom Technology Conference in September 2026. A week a month in the US at Lighthouse HQ. He wants to find the time to adapt iso14644.com to other languages.

"I love to have more hours."





the particle counter

I'm not a salesperson, but I kind of am without being a salesperson, because everything is based on that knowledge transfer.

At some point, the man at the front of the room will bring out a bag of craft glitter and a torch. This isn't a child's birthday, and he isn't an entertainer, though there is a version of this that could play just as well at a party.

Jason Kelly is the applications director at Lighthouse Worldwide Solutions, a manufacturer of the optical particle counters and air samplers that cleanrooms rely on to find the invisible, and the glitter might just be his favourite teaching tool. He picks two volunteers

and tosses a handful of the glitter into the beam - for a few seconds, every workshop participant is inside the machine. Jason is teaching them about contamination monitoring and particle counters.

He lives in Cuenca in the Ecuadorian Andes, high enough that the altitude still catches him off guard after an overseas trip. "I came back from a work trip to the US two weeks ago and, working out at the gym, I was gasping for air." It takes a few days to acclimatise, but it is home.

The obvious question is the one his own boss asked him: why Ecuador?

His telling of this story is surreal. He was on a ride in Charleston, South Carolina, and told his Ecuadorian cab driver he'd always wanted to see Ecuador; he'd only been as far south as Costa Rica. You should go, his driver said. So he did. Three weeks later, he was in Vilcabamba, in the southern part of the country, on a nine-day retreat run by a company that sells property to foreigners and, as a service, walks them through the visas, the shipping, and the tax. Ten other people attended the same retreat. Nine of them now live in Ecuador full time.

Jason remembers coming back from the event wondering if he could make this work. He confided his dream to Haşim Solmaz, Vice President of Innovation at Lighthouse, whom he calls "a most trusted colleague and friend," on a business trip to Istanbul, and it was Haşim, he says, who helped make

Jason Kelly

Applications Director, Lighthouse

Worldwide Solutions



it happen. The two have known each other since 2013, when they met at a Lighthouse meeting in the US.

Haşim says he remembers asking him quite directly, "Why wouldn't you do it?" And he did more than just encourage it. A Latin American expansion had already come up a few times before, and Haşim put Jason's name into that discussion and took it to management. He says he was just a catalyst, "simply connecting two things that already made sense", a life Jason wanted to build and an opportunity where his abilities could create real value for the company and the wider Latin American region.

His boss thought the conversation was about Jason wanting to move back to Ireland. Jason says he has no answer for why Ecuador. "I guess it's God's will."

He is not, at work, a man who moves on instinct. He won't quote on a system until he has the user requirement specification, the risk assessment, the cleanroom drawings. Not until someone has walked him through how many people will move through that room in a shift, in which direction, carrying what.

He's been in Latin America for about eighteen months now, and spent a large chunk of this time building up service departments. "The instruments measure," he says, "but it's the consultancy service, and the continuity of service, behind all of that, that really makes customers see your company stand out." So he worked with every distributor in the region to build their service departments, training engineers, installing

calibration systems. The plan was to have local capability in place to provide local support to existing and new customers.

Going into the pharmaceutical facilities in the region was all too familiar in ways he did not expect. "It feels like it's going back 30 years into Ireland."

Most companies there, as he sees them, are at the beginning. "They're still in their infancy stage of understanding how to properly have the aseptic technique, the aseptic transfers, and the gowning basics. I see so many mistakes." To him, there is a knowledge vacuum in the region.

The stakes are not abstract. Injectables, as Jason puts it, "go into your bloodstream, bypass your natural immune system." In May 2025, medical fentanyl produced by an Argentine pharmaceutical laboratory was found to be carrying *Klebsiella pneumoniae* and



Ralstonia pickettii. Ninety-six deaths were confirmed, and the government put the figure above a hundred by August, with more cases still under investigation. The families of the dead organised protests.

twenty-five minutes

Jason started his career in 1996 at Intel in Leixlip, County Kildare. Engineering courses in the city were built around the company the way the science courses were built around Wyeth. Students graduated to jobs waiting for them. He went into metal etch, working on Applied Materials P5000 machines making Pentium chips, sixteen or eighteen of them running at any one time, each one taken down and cleaned to a schedule.

He remembers it took him twenty-five minutes to gown up the first time. "Intel taught me engineering discipline, precision, repeatability, process controls, continuous improvement and became part of how I approach every technical challenge."

In 1997, when the electronics market turned, Intel offered redundancies. Jason, recently engaged, took it because he wanted to buy a house. Soon after, he landed a job at a distributor selling particle counters into a pharmaceutical sector that was, at that point, still nascent. They hired him as a service manager. His director quickly noticed that the salespeople kept turning to him mid-meeting because he knew the answer and they did not.

Knowing the answer has always been Jason's

superpower.

He is careful to say he is not selling. "I'm not a salesperson."

He is also honest enough, an hour later, to take it back. "I'm not a salesperson, but I kind of am without being a salesperson, because everything is based on that knowledge transfer."

His company's website carries a vast knowledge centre, and by his own account he built ninety per cent of it. Most of it is him giving away what he has spent thirty years accumulating. He runs a webinar every month, sometimes two.

build. repeat.

A thread runs all through Jason's career that's easier to see from the outside looking in. Nobody has put it to him before: that he builds the same thing, from nothing, and then leaves to build elsewhere.

Haşim says Jason is exceptionally good at taking something from its earliest start-up stage, putting the necessary structure around it and carrying it through until it becomes fully operational.

It started in Ireland. A distribution agreement with a young American manufacturer called Lighthouse in 2003, who had just released their first portable counter. Two years as their Irish distributor, installing monitoring systems into a rapidly burgeoning pharmaceutical industry. Years later, he went back and

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helped set up Lighthouse Ireland directly. "I became a big fish in Ireland."

In 2007, in Melbourne, Australia, he built a service department from scratch. He tells of the laboratory he took to ISO 17025, which he calls "the pinnacle of repeatability, traceability," and got it accredited to ISO 21501 for particle counters at the same time. By his account, no other facility in the world held both at

that point. He did it again within five years at a second Australian company, and later brought the same ISO 17025 standard into Lighthouse USA.

Since Jason's first stint with Lighthouse in 2003, he has watched it grow from a start-up into an industry leader with innovation at its core. He puts much of that down to the energy of its founder and chairman, Dr Kim Tae Yun, whose mantra, "He can do, she can do, why not me!" he says, runs through the company and pushes everyone in it to be their best. "She is the most charismatic person I've ever met." His own focus has settled on knowledge sharing, applications, and serving customers who need to safeguard their products through smarter environmental monitoring systems built on data integrity and data quality.

But for him, calibration is far more than just meeting compliance or a commercial application. "When we calibrate a particle counter in Argentina, and we calibrate a unit back in head office, the results should be the same. And part of ISO 17025 is inter-laboratory comparisons. So, we calibrate an instrument at head office, send it to Argentina, or send it over to India, and we want to see the same results."

Lighthouse's own laboratory in Türkiye has been through this. It was accredited in 2013, and Haşim says Jason came out around 2017 or 2018 to carry out an on-site assessment and lead an improvement process there. "We benefited greatly from his experience."

He says the Australian years were good ones professionally. He was "the same big fish that I was in Ireland." They came at personal cost. In eight or nine years there, he and his wife made it home twice. And when the offer came to move to the United States, they welcomed it, "feeling isolated from our families being so far away." His wife was Polish, he was Irish, and America was the shorter flight back to both. They have since divorced.

When asked whether he believes there is hope for an egalitarian playing field, where children, irrespective of where they live in the world, can expect the same quality of drug, he offers two perspectives.

The first is technological and optimistic: learning curves are collapsing because information is free. The second, which he offers with more hesitation, is harder, and it isn't confined to pharmaceuticals. "I've come across a few companies that just don't want to do the right thing because it kind of costs them. And you're going to get that in everything, human nature. You know, people are going to be driven by their ego and greed. And they'll take that path of least resistance, and if they're getting away with it, they'll keep doing it."

He does not confine this analysis to the developing world either. He reads FDA 483s and warning letters out of habit, and what he sees there are repeat offenders- established companies, even in stringently regulated markets in North America and Europe, making the same mistakes on a cycle. "It can't be

coincidental, you know?"

he gives it away

He's made it his mission to fill that vacuum with knowledge.

He's building a learning system to pass on all the accumulated knowledge he holds. Videos, modules, test questions, a certificate at the end, running from what a cleanroom is up to sterile pharmaceutical applications. It first went out to the Latin American distributors.

He is also watching this knowledge disseminate independently of him. "I've seen people that are new in the industry, and they have this AI-generated



information. And I'm going, wow, that's competing with my knowledge now, over 30 years. They can get to that stage very quickly." But is this knowledge backed up by experience?

It doesn't bother him. It's how the gap closes, and closing the gap is the reason he is in Ecuador. He repeats something that stopped him short when he heard it, a statement he attributes to Pfizer: that within five years they want no people in their cleanrooms at all. He expects the industry to go that way. He does not sound entirely comfortable about it.

"It fascinates me and scares me at the same time."

He has a way of describing his own industry that would make marketing leads everywhere gasp in horror. "At the end of the day, all particle counter and air sampler manufacturers make good products. It's like we pick a car - Hyundai, Toyota - what's the difference today? It's what's behind that." And then: "The instrument is just incidental."

Which circles back to the question of equal standards for all. A laboratory accredited to ISO 17025 has to prove that an instrument sent to Buenos Aires reads what it read in California. It's the point of inter-laboratory comparison, and Jason built his career around it before he had any reason to care about Latin America. He's been consistently enforcing the equality he could not promise, one calibration certificate at a time.

mind, body, soul

Up in the mountains above Cuenca, Jason is roughly halfway through building a large fish pond on his property, its wastewater feeding a polytunnel, waterfalls running down the slope, and a natural swimming pool you can swim in alongside the fish. He built a biological filter into it, sitting in a basket, cascading down into the pond below. He describes it the way he describes a monitoring system, in terms of what the by-product does next. Aquaponics, he says, is an intelligent use of what the fish leave behind. Haşim says it is in many ways "a very typical Jason project," and the life he's building in nature is true to the person.

He is also, without any hesitation, a deeply spiritual man. He believes in consciousness, in the connection between mind and body and soul, in natural healing, in frequency and vibration. He keeps three or four close friends and sorts them by energy. "I connect with these people that I feel they vibrate with my energy as well." He is not troubled by holding these beliefs alongside three decades spent making pharmaceutical manufacturing safer, and he does not appear to have been asked to reconcile them before.

At this stage of his career, Jason could be working in Fremont or Oregon or Ireland, in English, but here he is starting again in a language he doesn't have. He has given himself six months to deliver a presentation in Spanish, then a workshop in Brazil, where it will have

to be Portuguese. His fiancée is Ecuadorian and fluent in English, which doesn't really help, he says. "I'm very much of the mindset that you have to challenge yourself all the time."

Quite like the cold water immersion he practices. "You're more angry because you're physically immersed in something that you shouldn't be in. That challenges your existence." What he takes from it is what he takes from metrology. "Once you control the mind, you control everything."



building for keeps

The organization has been intentionally built around collective expertise rather than depending on one individual.

Yara Al Mouti grew up in Amman, in a family she describes as obsessed with literature. She remembers wanting to be a writer when she grew up.

She did become a writer, just not the sort of writing she probably envisioned as a child. Over her 27-year career as an engineer, Yara has written countless technical documents - protocols for buildings, water systems, air handling, utilities, laboratory and production equipment, processes and cleaning, gap assessments, diagnosis reports, task plans, procedures and training programmes. Writing that

Yara Al Mouti

CEO & Projects Director,
Agon Pharmaceutical Consulting



helps pharmaceutical manufacturers stay compliant in six countries.

Yara studied chemical engineering technology at Al-Balqa Applied University in Salt. She completed every internship at a pharmaceutical company. She fell in love with the industry, she says, and what it did for people's lives. Her first job after graduating was outside it. Three years at The Chemical and Mining Co. as a quality engineer on the production lines for slurry explosives. In 2002, she moved back to pharma.

Working in slurry explosives, she says, taught her the importance of process control, safety and quality.

Both are industries where a deviation can kill. What differs is when you find out. An explosives line fails in real time. The impact of a contaminated batch is often felt weeks later, perhaps in a different country. Quality, she learned, cannot rest on merely testing the finished product; it must be built in at every stage of the process and proved on paper as it goes. She became invested in prevention, risk assessment, accurate record-keeping, and investigating deviations minuscule enough to wave through.

beautiful country

Jordan has no oil of its own. Its pharmaceutical industry is a key sector of the Jordanian economy. The Chamber of Industry pegs export value for pharmaceutical preparations at JD642 million for 2025, according to the Department of Statistics via

Petra. A December 2025 sector report by Zawya attributes roughly seventy per cent of pharmaceutical and medical supplies exports to five markets including Saudi Arabia, Iraq, Algeria, the UAE, and the United States.

Unlike the garment and mining sectors, which are larger exporters but employ predominantly migrant workers, it relies heavily on credentialed knowledge workers - engineers, chemists, validation and regulatory specialists. Jordan has one of the lowest rates of female labour force participation in the world, 13.5 per cent by World Bank figures for 2025; the International Growth Centre puts it around fourteen per cent and fourth lowest in the world. Inside pharmaceutical manufacturing, this is starkly different; the Jordan Chamber of Industry puts women at around thirty-five per cent of the workforce.

Yara has been walking into these factories since 1999. When asked if being a woman has ever changed how a client, a contractor or an inspector engaged with her, she declines specifics, then answers anyway. "I don't prefer to discuss specific cases, but at the beginning some clients did not believe in my capabilities, assuming a woman would not be able to deliver. But with time, and with repeated success stories and interactions, I think now this obstacle is not present."

quality baked in

In a country that, by the Chamber of Industry's

count, exports to 85 markets worldwide, compliance isn't merely overhead but critical manufacturing infrastructure.

She learned the inner workings of the process while working for Advanced Pharma in 2002. She sat on the steering committee preparing for EU registration and on the validation steering team, writing and executing the protocols; as part of quality assurance, she designed and ran internal audits across every department. What she took with her, she is still selling: inspection readiness, she says, is not something you prepare for just before an audit. It has to become part of how the organisation runs every day. She says inspectors look past documentation to whether quality is actually embedded.



Yara went on to manage projects at TIS Consultancy and joined Naratech in 2008, where she designed the training department's strategy each year and ran it from proposing the workshops and conferences through securing sponsorships and delivering them.

She talks about her father when asked for an early memory that still applies to her work. "I have always admired my father's dedication and patience. His ability to learn all his life. I carried this through my life, learning with dedication and not stopping the learning journey till now." Patience and continuous learning are both attributes of a validation engineer, someone who knows results often arrive long after the work is complete.

agon and what is built in

Her company, Agon Pharmaceutical Consulting, which she started in 2010, tells manufacturers where they fall short. It runs gap assessments for GMP, GLP, and good storage and distribution practices. It then establishes the quality systems to close them and qualifies and validates equipment and processes that regulators want proven.

A key part is training: documentation, process control, quality assurance, validation, and statistics. She started it, she says, to build regional capability in GMP and regulatory compliance, which until then was farmed out to international consultants. Subjects that sell are what a regulator will ask about, rarely quality

culture, leadership, critical thinking or communication. Companies buy the latter, she says, when it balloons into a recurring problem or inspection finding, not before.

Training a client well makes the client need you less. Asked if that really happens, she says yes, but that she counts it as a measure of success. She tells of a manufacturer who had been working with outside consulting for validation and internal audits. Agon ran a structured programme and coached the team through live projects. In a few short months, the team was writing its own validation protocols, running its own audits and handling its own deviations. Agon's role faded to occasional advice on the complicated stuff.

Agon, Yara says, "has been intentionally built around collective expertise rather than depending on one individual." Her team of ten has eight women. They've worked on projects in six countries - Jordan, Saudi Arabia, Egypt, Palestine, Yemen and Iraq. Facility redesign, material and personnel flow, layout against international GMP standards in Yemen. An Iraqi facility built from the ground up. She says, "The ultimate measure of success is creating an organisation where the founder's role is to provide direction and growth, not to be the only source of knowledge, decisions or value." Agon is sixteen years old, and she has spent most of them making sure it will not need her.

She is straightforward in what she wants from the people around her. A trusted team member, she says,



is not someone who always agrees with the leader, but someone who confidently and responsibly flags issues early. She tells of a project where a colleague told her the technical recommendations were right, but the implementation timeline wasn't. It hadn't accounted for how much work the client's own staff were carrying. She had been focused on achieving the technical objective; the colleague pointed out the practical limitations. The plan was rebuilt.

Yara has served on the board of Jerusalem Pharmaceuticals Co, Al-Bireh, since 2024. The group includes Jordan River Pharmaceuticals and a veterinary and agricultural arm. Consulting gives her a defined problem. The board seat requires her to hold quality, compliance, finances, capacity and strategy all at once, and it changed her advice. She used to recommend fixing several things at once to reach

compliance quickly, but now phases the work by business risk and what a client can absorb while still producing.

september in cairo

Yara is speaking at Pharmaconex, Egypt, in September. Her fireside chat with Dr Abdullah Al Mesned, CEO of Bana Medical Company, focuses on opportunities for KSA and Jordan to collaborate for pharma innovation.

The Kingdom is the largest pharmaceutical market in the Middle East, annually between SAR 40 - 45 billion and it currently imports most of its medicines. Pandemic-era supply disruption turned that dependency into a security question, and localisation became a national policy diktat under Vision 2030. For an exporter in Jordan, this is a door closing via policy.

Jordan's regulator reached its own milestone on January 1, 2026, when the JFDA joined PIC/S as the 57th participating authority and the second Arab regulator to gain full membership. Two months later, the Jordanian manufacturers' association was sounding an alarm about growing Saudi and Emirati domestic production as a competitive threat. The change is narrow but practical. A GMP certificate issued in Jordan is recognised by fifty-six other authorities, making the capability now portable.

Factories can be rapidly built with money. Inspections, validated systems and expertise take longer, and the



Kingdom is investing in that capacity at speed. Yara signed a partnership with LOGIC Consulting in Riyadh in late November 2025, weeks before Jordan's PIC/S membership came into effect.

writing, of a kind

On September 1, Yara is leading a four-hour workshop at Pharmaconex on artificial intelligence inside a regulated plant: what a regulator will require, where the technology pays its way, how these systems fail and how to begin without wagering the whole factory. Her own agenda for the session calls validating AI the hard part. She's right. She's talking about a space that no one fully understands yet. The American guidance has been in draft mode since January 2025. The principles issued jointly with Europe in January 2026 are high-level, not requirements. Her clients' own regulators have published nothing on it that we

could find. What exists is industry guidance written by working engineers through ISPE, the body whose Middle East steering committee she has led since 2022.

The industry has been here before. In the '90s, computerised systems arrived in pharmaceutical plants faster than any regulator could define what to do with them. The answer eventually came from a forum of suppliers and practitioners who wrote the GAMP framework themselves. Industry and regulators alike work from it, and it's unlikely anyone from outside the discipline knows their names.

The committee Yara leads is the closest thing her region has to that forum. She speaks plainly about why it is hard: every country has its own regulatory framework, its own business environment, and it stands at its own unique stage of industrial maturity. The volunteers building it all have full-time jobs.

It is what she's been doing since 2002 - writing protocols in a plant preparing for a European inspection. Documenting in advance what will have to hold true long after she's left the building. She wanted to be a writer. This is the writing.



anything but ordinary

They call it a legacy when you're not in it.

I imagine pitching to 200 companies over the course of a year only to have 180 turn you away. It's the sort of rejection that can fell a lesser mortal.

Aamer Khan is 27 going on 28, but in conversation, you could easily mistake him for someone a couple of decades older. He doesn't correct the impression: "It gets me into a room," he says with a shrug. The solemn tenor of his speech is measured, formal and very unlike the irreverent cadence of someone not quite thirty. But what you notice first is not the premature greying in his beard ("genetics"), but his

Aamer Khan

Fund Manager - Alanar One Health Fund



audacious curiosity. And how he listens. When Aamer listens to you, the world disappears; you find yourself spilling secrets you'd never dream of telling another soul.

Ask him what he wanted to be as a child and he has nothing. What he offers instead is a negative, "I always had the fear of being mediocre. I always wanted to be bigger than anything around me, at least. I don't know big in what sense."

In 2021, Aamer started a podcast through which he hoped to platform interesting, everyday people and tell their stories. He gave himself a timeline - eighteen months - if he hadn't made any money at the end of that period, he'd move on. He says he went back at the three-year mark to validate his decision: "The downloads were approximately the same. If you leave something on the Internet, it's always there for people to go back to, and people still didn't go back to it." He needed it confirmed dead. But it also validated something else. "I didn't know I had it. Second stage of my life, I knew I had it, but I was not using it quite well. And the third stage is now." He means the listening. It is the only thing he claims to be good at, and he brought all of it to his next gig.

the cocoon

What he decided to do next was a homecoming, of sorts. Aamer grew up in the pharma engineering world. Words like aseptic and ACH and OEB 5 and

laminar flow - science fiction to the average teenager - were the ambient dialogue of his childhood.

The Indian pharma engineering sector is the invisible engine that powers biopharma manufacturing in much of the Global South. Companies, for the most part, are family-held, frequently profitable and allergic to outside capital. Promoters reach retirement looking to the next generation as their exit plan. A mere handful have opened a pathway to professional management. Fewer still have accepted investor capital. South Korea faced the same problem and solved it differently, by building ownership structures that let families keep control across generations. Japanese family firms have a real institutional answer in adopted adult heirs and outside successors. India built neither. "The industry is in a cocoon. They know what's out there. But they're afraid to take the first step."

Companies that peaked at 30 or 40 crores of revenue are valued at their revenue, because nothing has tested the number. "Unless somebody gives you a cheque for a percentage of your company, your company valuation is zero, no matter how many independent valuers come and assess your company."

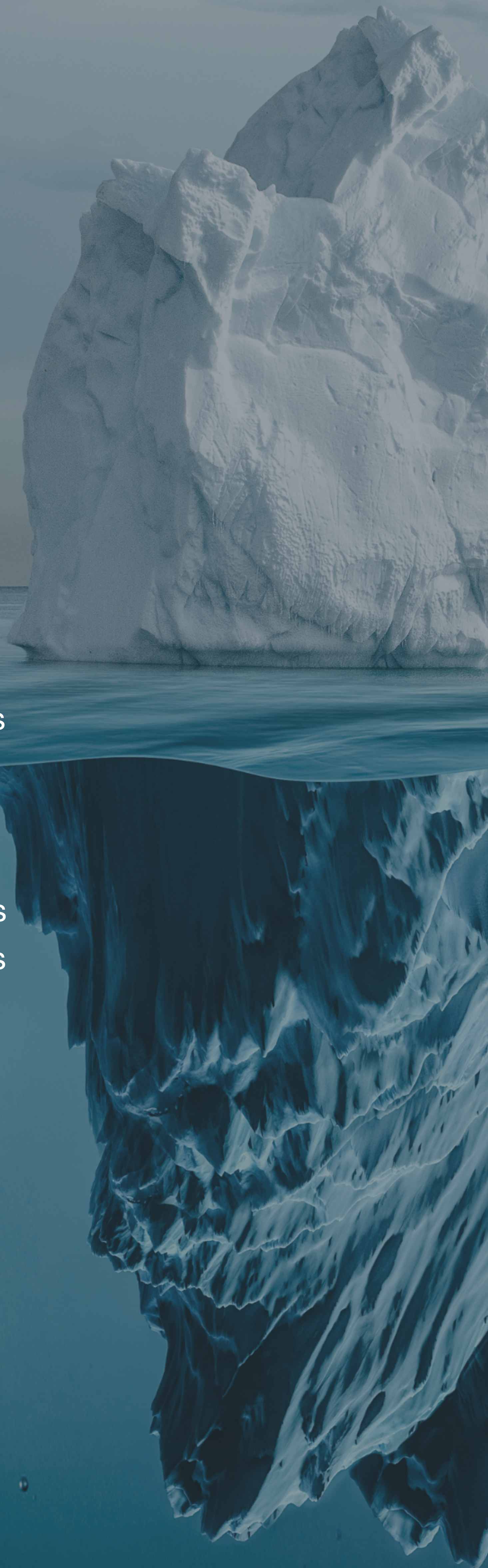
Enter the Alanar One Health Fund, which Aamer manages, a ₹126 crore Category II AIF focused exclusively on the Indian pharma engineering sector. Not a venture capital firm, he insists; "too close to a vulture". Escalator capital then, not vulture capital.

four out of five

Aamer is the first to admit that promoters who have rejected him aren't being irrational.

On paper, a stake is a percentage, but in an Indian family-run firm, it is seen as a leash. The company is often intertwined with the promoter's sense of self. He built it from the ground up, and a slice of that does not translate into anything he recognises. But the objection underneath goes deeper than sentiment. It is not the investment he fears so much as what comes with it: control, veto, exit clauses. A twenty per cent shareholder with a deadline can put a family's legacy up for sale.

The shares are not free to move anyway. In these companies they are how the family has divided



itself: the brother who stayed, the one who left, the daughter's portion, the branch that was settled.

Nobody has ever had to put a number to any of it.

And nothing is forcing the question. The business is profitable. From inside the room, there is no visible ceiling.

This wariness of investor money is not unfounded.

Enough founders have been displaced, enough rounds coerced, that caution has become pattern recognition.

The trouble is that at a first meeting, the good investor and the bad one look exactly the same.

100% of nothing

Then the flip side, which Aamer has watched happen to good companies.

A company peaks. The promoter turns sixty with nowhere to go. Nobody to run the show, and no exit until somebody offers one. If the children want it, they inherit a business with no money to grow it. So the company does what it can afford to do. It manages costs. It holds the line. "There is no thinking beyond yourself," he says, "because you don't have the bandwidth to think beyond yourself."

Meanwhile, another thirty new companies mushroom to challenge the status quo, taking projects at lower prices, and the legacy the founder wanted disappears by the minute. "They call it a legacy when you're not in it. When you've gone, you've passed away, and only the name lives on. Not even your name, your

company's name. Up until then, it's just you and your company."

Aamer is blunt about where it ends. "We've seen a lot of companies die because they took on too much debt, couldn't manage their finances well, thought they needed a bigger factory when all they needed was operational efficiency." And he's even more candid about the maths that is often missed: "own half of a thousand-crore company than all of a hundred-crore one."

Aamer is fine with walking away unsuccessful so long as he's planted a seed in whoever he's just met that this is a conversation they should be having. His pitch gives away his whole ambition. If not with him, then with someone else. "You're a horse, you're running in a race. At some point, become the jockey, man. And after some time become the bookie, I don't know."

He says some meetings go very well, and the person says no. Sometimes he walks out thinking it was a disaster, and they want to move ahead. He takes the failures as his to fix: "It is on me to change perceptions," and says the odds are the appeal. "I've loved the chase more than the result. Always."

chain reaction

As of publishing, about ₹103 crore of the ₹126 crore has been committed, with ₹23 crore still to be raised. It has invested ₹50 crore in five companies so far, a sixth in progress: capsule machines in Kolkata,



sterile process equipment in Mumbai, a fans and solar business also in Mumbai, a biotech in Hyderabad, a data centre builder in Pune.

Aamer is adamant about not wanting control. "We understand not to change the DNA of companies" the fund invests in, the very thing that made the company investable in the first place. He wants to prove to promoters that investor money is about uncaging ambition, not control. "Somebody who's tasted failure would eventually look for people not wanting to make the same mistake."

Most of what the fund does is small: ten or fifteen per cent of a company already fit to list, twenty-six to thirty-three per cent of one a bigger buyer will want later. The one exception is 45 per cent, which he says is the only exception, not the rule.

He talks about getting eighty or ninety per cent of the portfolio to a level where other companies copy them. "That would mean a successful Alanar, more than anything." Then, as he hears himself say it, "This might scare some people. As a fund manager, you're supposed to look at returns."

He would like, eventually, enough money to fund a foundation of his own. He has not yet worked out what it would be for. "I don't have some cause that I'm very close to. I want to have that."

When he first started, his last name got him fifteen minutes with the people he wanted to meet. Today, Alanar does. Alanar One Health Fund is the first of its kind in an industry that has spent forty years declining to be invested in. And that in itself makes him extraordinary.





3 days in cairo

What to expect from the thirteenth edition of Pharmaconex, and how to make the most of the show.

It's about that time of the year when the global pharma event calendar starts to look particularly packed. Informa Markets, one of the leading trade show organisers in the world, accounts for at least five of these global meetings. A potential buyer who wants to meet suppliers can go to [Shanghai](#) in June, [Milan](#) in October, [Delhi](#) in November and [Riyadh](#) in December - all four are CPHI events. Then there's [Pharmaconex](#), held every September at the Egypt International Exhibition Centre in New Cairo.



This is the thirteenth edition of Pharmaconex, running from 1-3 September. It is held in association with CPHI, under the aegis of the Ministry of Investment and Foreign Trade and the General Authority for Investment and Free Zones. The [event is free to attend](#).

gateway to africa

Since the pandemic, every country across Africa and the Middle East with a dependent supply chain and less-than-ideal, or in some cases non-existent, manufacturing took firm steps to redress the status quo. It became imperative to build the infrastructure needed to manufacture essential medicines at home while reducing dependence on imported finished products.

A clear example is Egypt, with its large pharmaceutical

manufacturing sector that produces most of the medicines it consumes domestically; yet it imports most of the ingredients needed to make them. Local API production covers a fraction of domestic demand. Speaking to Business Monthly in August 2026, Ali El-Ghamrawy, chairman of the Egyptian Drug Authority, says the country has 183 pharmaceutical factories, and the Authority has supported the localisation of 155 active ingredients used in 234 finished products between 2023 and 2025. But he says the hard part isn't manufacturing the ingredients; it's reaching the volume needed to compete with producers in India and China.

This contradiction runs through the heart of the self-sufficiency story in pretty much every country on the continent. To build a self-reliant manufacturing pathway that doesn't depend on international supply



chains, you still need these relationships to get there.

if you're coming to buy

Pharmaconex brings these relationships under one roof.

The 2026 exhibitor list has 360 participating companies across two halls, of which 136 are Egyptian, 113 Chinese, 91 Indian and smaller groups from Europe and across the Middle East. China and India are the world's primary sources of pharmaceutical ingredients and affordable machinery.



Egypt has one of the largest pharmaceutical manufacturing capacities in the region. Buyers from the continent and the Middle East are within reach of both.

Participating companies include manufacturers and suppliers of active ingredients, fine chemicals, biopharmaceuticals, laboratory equipment, cleanrooms, machinery and process technology, contract manufacturing, nutraceuticals and packaging. Among them are Zydus Lifescience and MSN Laboratories from India, and Zhejiang Huahai Pharmaceutical and Sinopharm Weiqida from China, all on the ingredients side. Colorcon and Gattefossé for the coatings and excipients. Tofflon and Shinva Medical Instruments bring sterile processing and sterilisation equipment; Fabtech Technologies builds cleanrooms and delivers turnkey projects; ZETA of Austria for bioprocess plant engineering; and Ansell and Elis for the garments and consumables used in a cleanroom.

On the Egyptian side, Eva Pharma, the country's largest exporter and a double winner at the 2025 Pharmaconex awards; Nawah Scientific, which took



home the exports award; Medical Packaging Co; and Pharma Egypt for Engineering. The three Egyptian state bodies also have a presence at the show: the Unified Procurement Authority, the Egyptian Drug Authority and the National Food Safety Authority. You can view the [latest exhibitor list](#) on the Pharmaconex website or in the app.

Pharmaconex outreach reaches across the continent and extends into the Middle East. In 2025, more than 12,500 visitors attended, twelve per cent of them from outside Egypt, with Sudan and Nigeria among the largest sending countries alongside India, China, Saudi Arabia and the UAE. The event app has over 9000 users.

Pharmaconex runs a popular [hosted buyer programme](#) that brings in executives with purchase authority. In 2025, the matchmaking program facilitated more than 500 pre-arranged meetings with 110 exhibitors, alongside 300 [VIP meetings](#).

if you're coming to learn

The 2026 conference program focuses on the less visible side of manufacturing infrastructure: equipment qualification, ISO 14644, Annex 1, contamination control, GMP monitoring, technology transfer and digital batch records. Workshops include stability testing and digital transformation. The technical conference includes sessions on Morocco, Saudi Arabia, Iraq, Jordan, Libya and Nigeria. A [women-in-](#)



[pharma](#) gathering brings together senior figures from industry, regulation and government; the 2025 edition drew more than 500 delegates and was led by Dr Hala Zayed, former Minister of Health and Population.

The technical conference is split across three stages, one per day. The regional stage covers investment and capital strategies alongside regulatory harmonisation and market access across North Africa and MENA; the tech stage is about biotech and AI-enabled production, and the green pharma stage centres on sustainable packaging and labelling.

Ahmed Helal of Jamjoom Pharma is chairing the 2026 cleanroom conference across both days, and opens with a keynote from Haşim Solmaz on ISO 14644 and what the standard asks of a facility. Haşim is chairman of the International Confederation of Contamination Control Societies, the global umbrella body whose work feeds ISO Technical Committee 209. Eva

Shoukry follows on contamination control strategy under Annex 1, Mohamed Samy of Pharma Egypt for Engineering on equipment qualification, and Reham El Dahshan of Orchidia on cleanroom decarbonisation.

The regional stage on day one has Yara Al Mouti of Agon Pharmaceutical Consulting sitting across from Dr Abdulla Al Mesned, CEO of Bana Medical Company, on how Saudi Arabia and Jordan are collaborating on pharmaceutical innovation. Both bring the participation side of the localisation into focus; Bana is a supporting partner at the show, and Agon works across regulatory and project consulting in the region. The afternoon adds more country sessions led by Mansour Alajeemi of the Libyan health ministry on the registration pathway; Khalid Al Kinani of the University of Baghdad and the Iraqi Medicines Registration Committee on localisation in Iraq; Layla Sentissi of the Moroccan Federation of Pharmaceutical Industry and Innovation on Moroccan biotech; and Cyril Usifoh,



immediate past president of the Pharmaceutical Society of Nigeria, on industrial networking across Africa.

The conference has a practical function - the education program is certified by the CPD Certification Service. More than 3500 delegates attended the certified program in 2025. You can view the latest agenda on the Pharmaconex website or in the app.

In 2023, the show featured around 220 companies, about fifty of which were Egyptian. This year, of the 360 exhibitors, 136 are Egyptian. Local industry has nearly tripled its presence. This is an important sign of the region's shift toward local ambitions. For now, the continent still needs to source much of what it needs from outside. Pharmaconex brings some of these companies into the same room as manufacturing, building Africa's capability one facility at a time.



the technical conference

Day 1 | Tuesday, 1 September 2026

12:00 PM – 12:30 PM

Drivers causing the paradigm shift needed in the pharma manufacturing world
-- **Khaudeja Bano, Genentech-Roche**

12:30 PM – 1:00 PM

Public-private partnerships in pharmaceutical production
-- **Ossama Shaheen, Egypt Healthcare Authority**

1:00 PM – 1:30 PM

Manufacturing joint ventures and strategic alliances
-- **Amir Abou Elmagd, Genome Lawyers**

1:30 PM – 2:00 PM - Break

2:30 PM – 3:00 PM

Navigating global excipients regulation for MENA market success
-- **Amiee Allen, Colorcon**

12:30 PM – 1:00 PM

Paving the way to pharmacoeconomics
-- **Dr Gihan Hamdy El Sisi, HTA Office MENA**

3:00 PM – 3:30 PM

Fireside chat: Morocco — leading biotech innovation
-- **Yassine Bouajaja, Moroccan Federation of Pharmaceutical Industry & Innovation**

3:30 PM – 4:00 PM

Fireside Chat: Saudi Arabia and Jordan — collaborating for pharma innovation
-- **Yara Al Mouti, Agon Pharmaceutical Consulting and Dr. Abdullah Al Mesned, Bana Medical Company**

4:00 PM – 4:30 PM

Localization of pharmaceuticals in Iraq: opportunities in generics, biologics, and tech transfer
-- **Dr. Khalid Al Kinani, University of Baghdad, and Member of the Medicines Registration Committee, Iraqi Ministry of Health**

4:30 PM – 5:00 PM
Pharmaceutical registration pathway in the state of Libya
--

5:00 PM – 5:30 PM
Sustainable industrial networking: a panacea for pharmaceutical growth in Africa
--

Day 2 | Wednesday, 2 September 2026

11:00 AM – 11:30 AM
Navigating complex pathologies via computational biology: a multi-node bioinformatics approach to next-generation therapeutics
-- **Ali Elshabrawy**

11:30 AM – 12:00 PM
Innovations in tableting and case studies on common APIs
-- **Yara Al Mouti, Agon Pharmaceutical Consulting and Mohammad Qashmar, CtrlPoint**

12:00 PM – 12:30 PM
Compliance meets innovation: engineering the paperless plants
--

12:30 PM – 1:15 PM
Pharma's digital future: from discovery to compliance
-- **Michael Mounir Habib, Eva Pharma; Safwa Nihad Al Musa, Pharada**

1:15 PM – 1:45 PM
R&D advancements driven by Indo-Egypt pharma synergies — opportunities for partnerships]s
-- **Cheruvu Purushottama Shastry, Pharma Synergies**

1:45 PM – 2:00 PM
EPR tech and innovation in pharma industrye
-- **Dr Ahmed Fathy, MEDEX**

2:00 PM – 2:30 PM
Biotech innovation services
-- **Hasumati Rahalkar, Metina**

2:30 PM – 3:00 PM
The power of purity: selecting the right excipient grade for biopharmaceutical stability
-- **Mina Ghaly, Croda**

3:00 PM – 3:30 PM
Building bridges: empowering local manufacturing through technology transfer
-- **Dr Korany A. Ali, R&D-CPI**

3:30 PM – 4:00 PM
How AI can fight against substandard and falsified pharmaceutical products
--

3:00 PM – 3:30 PM

Circularity without compromise: AI and technology across the pharma packaging lifecycle
-- **Mohamed El Sharkawy, APY - Sharky**

3:30 PM – 4:00 PM

Born operational: Why the next generation of MENA pharma facilities must be designed, run and governed as one
-- **Bahaa Fat'hy, Senu Consult, Ehab Edward; Nareman Khattab, Resources One**

Day 3 | Thursday, 3 September 2026

11:00 AM – 11:30 AM

Regulatory trends in sustainable pharma packaging
-- **Hany Zahran, HO Group**

11:30 AM – 12:00 PM

Circular economy in pharmaceutical packaging
-- **Mohamed Kamal, Medical Packaging Co. (MEPA)**

12:00 PM – 12:30 PM

From formulation to patient: driving sustainable transformation in drug delivery
-- **Fadi Bechara, Aptar Pharma**

12:30 PM – 12:45 PM

From hours to minutes: practical AI applications in the pharmaceutical industry
-- **Ahmed Nabil, Juphera**

The Pharmaconex Technical Conference information is accurate at the time of publishing. Please refer to the Pharmaconex website for the latest schedule.



cleanroom technology conference

Day 1 | Tuesday, 1 September 2026

10:50 AM – 11:00 AM

Introduction and overview
-- Ahmed Helal, Jamjoom Pharma

11:00 AM – 11:45 AM

Keynote: Journey through the standard of ISO 14644
-- Haşim Solmaz, Chairman ICCCS

11:45 AM – 12:30 PM

ISO 14644 versus Annexure 1
-- Sanky Marzouk, Elis Cleanroom

12:30 PM – 1:00 PM

The lifecycle of cleanroom equipment: from URS to qualification
-- Mohamed Samy, Pharma Egypt for Engineering

1:00 PM – 1:30 PM - Break

1:30 PM – 2:15 PM

Demystifying EU GMP Annexure 1 compliance: designing contamination control strategies (CCS) for advanced biologics platformisation
-- Eva Shoukry, BGP

2:15 PM – 3:15 PM

Digital maturity and Eco-GXP: driving cleanroom decarbonization and smart containment
-- Reham El Dahshan, Orchidia

3:15 PM – 4:15 PM

Artificial intelligence in pharma and healthcare: from hype to real world impact
-- Mohamed Mabrok, Qatar University & TES



Day 2 | Wednesday, 2 September 2026

10:20 AM – 10:30 AM

Opening remarks
-- **Ahmed Helal, Jamjoom Pharma**

10:30 AM – 11:45 AM

Smart cleanroom systems
-- **Ahmed Helal, Jamjoom Pharma**

11:45 AM – 12:30 PM

Cleanroom garment qualification - A 5-step valifation framework according to GMP Annex 1
--

12:30 PM – 1:15 PM

Cost saving and production excellence through smart GMP monitoring
--

1:15 PM – 2:00 PM - Break

2:00 PM – 2:45 PM

Pharmaceutical Projects Insights
-- **Ally Sallam, Minapharm**

2:45 PM – 3:30 PM

Panel discussion: Excellence in cleanroom technology
-- **Moderator, Ahmed Helal, Jamjoom Pharma**

The Pharmaconex Cleanroom Conference information is accurate at the time of publishing. Please refer to the Pharmaconex website for the latest schedule.

connect with our Linchpins

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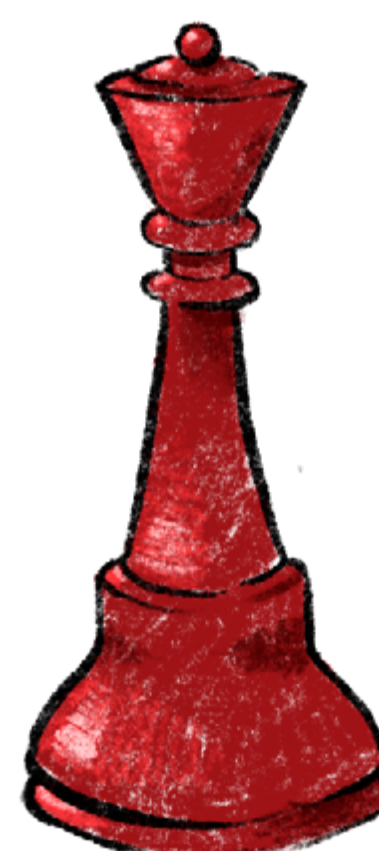
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