



# EP 4: NEW SCIENCE: TRANSFORMATIVE PATIENT OUTCOMES WITH BOLD NEW SKILLSETS

## AUDIO TRANSCRIPT

### **Introduction**

**0:01**

This is Inside the Heart of Change brought to you by Accenture. Let there be change.

### **Seetal**

**0:08**

Welcome to Inside the Heart of Change. My name is Seetal. This is a podcast series brought to you by Accenture, let there be change. And today we explore change in the area of new science-transformative patient outcomes with bold new skill sets. Now before I introduce the speakers on the episode, I thought a bit of a context would help. Now the COVID-19 pandemic forced the biopharma industry into unprecedented action. What we witnessed was the global scientific community collaborating in exceptional ways, as public-private partnerships drove innovation to address a common need. Among the most prominent of these was the Covax initiative, which helped distribute COVID vaccines across the world, and was lauded as a super Public Private Partnership in many quarters. And amidst the turmoil of the pandemic, two things stood out, technology and science. Technology played a massive role, a role where we saw it deliver on its promise as a solution to several human limitations, as it became clear that digitization and automation comprised the two-pronged solution to the

professional challenges presented by lockdowns globally. We saw technology help people transition to work from home. Tech also helped businesses reconfigure supply chains and enabled contactless transactions critical for the need of that hour. Science on the other hand, enabled multiple COVID-19 vaccines to be developed in record time despite the shift to remote working. Let that sink in for a moment, hundreds, if not 1000s of professionals working in tandem across the world to develop a vaccine that would help put an end to a dangerous global pandemic. Now, that is certainly impressive in terms of innovation and outcomes. On this episode, we're going to discuss how the biopharma industry can continue to create new pathways for innovation, access and affordability while advancing the delivery of new treatments for all health conditions. We'll also look at the skill sets that are in high demand for the talent in new science and how that is going to be a key driver of growth in the biopharma industry. Now that you have that context, let me introduce our speakers. Well, we have three distinguished ones joining us on the podcast today, our guest speaker is Dr. Sandeep Athalye, SVP, and Chief Medical Officer with biopharma major, Biocon Biologics. We have Ashish Ambasta, Managing Director, Life sciences industry lead for Technology Services at Advanced Technology Centers in India, or ATCI and we also have



Gopali Contractor, Managing director, Global Lead Data and AI learning at ATCI. Thank you to all our speakers for joining us on this podcast. Always a good idea if you asked me to start with the basics. What is new science you ask? And that was exactly the question we had in mind as well. Gopali unpacks the term new science and explains why this intersection of disciplines as she calls it will shape the future of healthcare. And Ashish explains that new science has become an imperative for biopharma and is seen as one of the major drivers of growth for the sector in the coming years.

### **Gopali Contractor**

**3:13**

We've thought about technology being very business focused and science being very research focused in many ways. We're now bringing it together to say this is new science where this technology is enabling people working from home and enabling a research and science or scientific breakthrough, or technology supporting science directly in making. For example, the COVID-19 vaccine production in record speed, right? So love the term, new science, because it's talking about how science has shifted in the way it looks as technology and vice versa. So I think a new breed of themes or new breed of focus and skills needed to bring this all together to make it really, really powerful. I think we're just at the cusp of what we're going to see in terms of record breaking things, right, we've known that technologies such as AI has the head, the code, the genome right? But that was something that happened in the labs, simple things like, you know, customer support was not available through the pandemic arena. And that's where virtual agents or conversational AI, made it very, very easy for people to kind of get answers, some of them may not be relevant, but some more relevant to the situation that they were in. Right. So that's coming together of whatever was research and that research or science or, or the advancement of it being available to the masses, right? And that's just beautiful.

### **Ashish Ambasta**

**4:36**

New Science as we define today is a dynamic combination of science and or technology, which has the potential to fulfill an unmet medical need, which feeds the current standard of care,

which is currently existing. Now, what new science involves is application of latest developments in science like cell and gene therapy, STEM research, radio isotope, etc. It often has a technology component, but it can only be technology. For example, this is where a lot of people are very amused to hear how can medical science have a component or a therapy which is solely based on technology and that is something which we call as digital therapeutics. So in nutshell, new science is a combination of both science and or technology. Now, why it is important is, our observation is, new science is projected to drive 81% of biopharma revenue growth, and 61% of all revenues over the next five years. Our observation is also that huge investments are being currently made in the area of new science across all therapeutic areas, by all leading players in the industry. What we are also seeing is in the last five years of all the deals that are intended to create entirely new therapies, 76% were new science driven and out of the 76%, immunology and cardiology are the two therapeutic areas where we are seeing maximum amount of growth. So, in nutshell, this is an area which is going to really drive the growth in the biopharma sector and that is why it becomes extremely important for every player in the biopharma industry to understand and apply new science.

### **Seetal**

**6:23**

A big part of the vision that drives the life sciences or biopharma sector is fulfilling unmet medical needs. Dr. Athalye explains that for the life sciences industry, new science is a combination of science and technology that can and indeed must fulfill such unmet medical needs in a manner that can improve upon existing healthcare standards, and also address challenges like healthcare access in emerging markets.

### **Dr.Sandeep Athalye**

**6:49**

So Seetal I think the growth in biopharma today is really hooked up on the ability to bring effective drugs to the market. And these drugs need to have significant improvement over the standard of care and they have to be brought in a timely manner and in a cost-effective manner. I think this pivots new science, and what I mean by that is, I think it has an element of innovation,



which is research innovation, the ability to have new targets, mechanisms of action, and having improved diagnostics, by analytical methods, and really having an deep understanding on the molecular structure and its relationship to its function. So that's innovation on the R&D side. But I think importantly, it is also quite closely related to addressing unmet needs. And when it comes to unmet need, we typically talk about populations that are unaddressed with current standard of care or therapies. But we need to address also diseases of the emerging world. I think, oftentimes, Big Pharma, are less focused on diseases of the emerging world, obviously, from a point of return on investment, so, I think that's an important area to focus on as well. And I think access is the new unmet need in today's times. For all the great biologics and new drugs that are very effective and making a lot of strides in improving patient care. A hardly, a handful of people in the West are able to access these drugs, and that is purely because of the cost. Today, we are a 7 billion on the planet, and I feel a lot of those in the emerging markets in the developing world have no access to these medications. So, I think access is in my opinion, a new unmet need as well. I think needless to say, I think technology plays a big role in delivering these medicines. So, I think we have seen in COVID times how telemedicine has taken up all of a sudden and because it was absolute need at that time. Now we know that it has an ability to save cost in the system as well. Similarly, we can say about digital therapeutics, data analytics, and many other technology related things, that can actually increase the efficiency of the systems and reduce costs.

**Seetal**  
**9:13**

To realize that vision of fulfilling unmet needs, this new direction or imperative will require investment at an industry level. Now, one prevalent point of view is that the burden of investment in scientific innovation is borne by all stakeholders but felt most deeply by patients. Ashish explains how life sciences and biopharma companies can help maximize return on investment for patients as well.

**Ashish Ambasta**  
**9:38**

So, one thing that almost every pharma company is trying to do, is first of all, minimize

the cost on discovering and developing the new treatment, and secondly, maximize the revenue and profit out of the treatments that they are developing. Now, coming to the first point, the cost of innovation itself can be brought down. Right now, if you look at it, the average cost of bringing a new treatment to market is between two and half billion to around \$6 billion, depending upon the kind of treatment it is. And the industry is looking at various approaches to bring down the cost drastically from billions of dollars to under a billion dollar by application of technologies like digital biology, in silico chemistry, predictive approaches, and new science, whose probability of success is pretty high. So that's on the R&D side. On the commercial side, we are also looking at how can we take into account the new economic reality, the better management of patient, offer more innovative treatment programs with the patient, and that way reducing the overall cost of treatment. And finally, once we see some of these things scaling up, especially the investment in new sciences when they become more broad based with the economy of scale, the cost will also be coming down.

**Seetal**  
**10:55**

New realities inevitably bring us face to face with new challenges and new roadblocks and biopharma companies face new roadblocks amidst the new economic reality. Ashish helps us understand how cost of developing treatments and biopharma really works.

**Ashish Ambasta**  
**11:10**

What we are observing in the market is as opposed to 10 years ago, the average tenure of blockbusters or the leading therapies have dropped 51% from 10 years, that it used to be a decade ago to five years, which means that the revenue making time has been cut down to half. A second important observation that we have is, the total budgetary allocation of all the developed economy and the revenue expectations of Pharma, there is a difference or a gap of \$300 billion, which we call it as an affordability gap. So, there is definitely a mismatch between what the pharma companies are expecting to earn versus what the government can afford as far as prescription drugs are concerned. The third point is margins

are declining in every therapeutic area except cell and gene therapy. And why this is happening is, if you look at it with the advancement in science, and with the competing drugs coming into market, we see a whole lot of options which are there for HCPs healthcare professionals to prescribe to patients. And we are also seeing a lot of blockbuster drugs, higher revenue making drugs, they have become off patent which means the premium that the companies may be able to extract out of some of those drugs have actually come down. And then the other pieces on the pharmaceutical company side is the shift in, the shift in the kind of payment because most of the insurance companies and payers are now looking at more outcome-based payments, which means they really want some of those treatments to be guaranteed to bring about positive outcome before that becomes eligible for payment. So, this is the economic factor which is there which the pharma industry is facing. Now that second aspect of the roadblocks is on the patient side. What we have observed is, the premiums that patients pay towards their health insurance, it have increased 22% in last five years. Which means it is many more times the increase in the wages that the same set of population has experienced, pieces become very, very costly. And because of that high costs, we are also observing around 30% of the patients, they are not able to afford the treatment due to the high costs.

**Seetal**  
**13:33**

Dr. Athalye explains that biopharma companies are struggling with affordability globally. Another major roadblock to creating value is the increasing cost of developing treatments.

**Dr. Sandeep Athalye**  
**13:45**

This is sort of a universal issue for biopharma across the world. Today, I think we are seeing that there are a lot of commercial pressures on biopharma, whether it is innovative biopharma or companies who are developing biosimilars, and also trying to develop affordable medicines. You know, earlier, it was a belief that the commercial pressures were in the emerging markets. Countries that were developing, and were not able to pay because most of the drug costs were borne by the patients and not by insurance. But I

think this is not true today. I think affordability has become a global issue and I think the ability to cross subsidize the costs in emerging and developing markets with an ability to have high profitability in the developed countries is also being challenged today. And I think there are government pressures in the US, in European countries, and therefore I think everybody is looking for value. So, I think we talked about innovation, but I think, very important to go along with it is value. So, I think only when you have that value component built in the target profile of any molecule, only then you can get reimbursed. So that's Number one, I think the commercial pressures on being profitable. I think the second one is the rising cost of development of these molecules. So, I think it has got also to do with the regulatory guidelines that we have, the FDA or EMA, and the rest of the key regulatory bodies. The regulatory policies today, are, I think, in a way, we're driven to, it wasn't a billion dollar development target for a new molecule. Today, it has become three, four, \$5 billion. And I think this is unsustainable. I think one of the things that drives these costs is the costs in clinical trials. I think clinical trials is almost about 60 to 70% of the overall development costs and I think the burden on large clinical trials is something that is driving these costs to the roof. While there are some regulations that are changing towards making them more efficient, but I think we need to carefully look at, in near future, how to reduce the burden on clinical trials because the costs of development is not sustainable.

**Seetal**  
**16:10**

It is said that adversity brings opportunity. Now I may be vexing a little bit philosophical here, but amidst the challenges that biopharma and life sciences companies face, there are also opportunities for profitability that can help the sector thrive, Ashish says companies can leverage technology to reduce overall cost, commercialize their products, and redefine the economic relationship with their customers. Dr. Athalye believes the future presents opportunities for companies that can address global health challenges with a cost-effective approach to manufacturing.

**Ashish Ambasta**  
**16:43**



The first one is how do you bring down the overall cost of therapy? So one thing that the pandemic has taught us is how can we apply new ways of discovering developing and commercializing treatment. What we are seeing is an increased application of virtual clinical trials, which means now the subjects will no longer be required to go to trial sites for participation in trials. Instead, they can be engaged remotely via connected devices by application of certain interactive technologies to engage them better, leading to lesser dropouts, which was one of the key reasons for trial failures. So thereby, increasing the probability of success of the trial, thereby reducing the overall cost. Other things, some of the pharma organizations are actually doing, is making sure how can they leverage technology for even commercialization of their products. In the pandemic, all of us know, almost every interaction was curtailed and that is where we observed that even though virtual interactions with the sales representatives and healthcare professionals was very effective. Increased engagement was reported some, through some of those digital channels. So that on the R&D and commercial side. The other thing that the organization's can do is to find opportunities to redefine economic relationships with customers and when I say customers, it is not only HCP, but also the end patients. Which means can there be innovative treatment programs? so that there are less dropouts, more adherence, providing a digital platform so that the patients are engaged, and they remain plugged into the overall treatment program. So, by doing this, they can maximize the participation and engagement of customers, thereby maximizing the overall revenue and turning this into a profitable equation.

**Dr. Sandeep Athalye**  
**18:35**

I think there are ways that you could think of, I think, as I said before, I mean, we need to be focusing on the portfolio of products that we have. And I think we're talking about innovative drugs that also bring value. But really, I think everybody's focusing on drugs in oncology and immunology therapy areas. But I think there is a lot of scope in the future in vaccines, for example, I think COVID has taught us that pandemics are no longer restrictive to certain regions, I think they can be completely global.

That's what I think, investments in vaccines, preventive, anti-infective medication, I think these are therapy areas that need more investment and I do see that there is a big opportunity there. The second thing is, I think expanding access to a whole lot more patients, across the world, because we are addressing only certain markets and certain territories that focus from a business point of view. But if we are able to provide affordable and value-added medicines across the globe, there are a whole lot more patients that can avail these therapies and therefore that opens up the market for many companies. I think needless to say, the ability to manufacture at a low cost, I think is very important, to be sustainable in the future. The ability to have global supply chain networks is again other important one, because COVID has again taught us that supply chain disruptions across industries has really played havoc and has affected not only healthcare, but I think overall economies across the globe. Lastly, I would say that if there are companies that don't have the full vertical integration within themselves, right, from, say, research and development, to manufacturing to commercialization, and if you depend on different players and partners in bringing the drug to the market, each of them take a slice of the profits. And I think, therefore vertical integration, if you're able to achieve, can actually help you retain most of those profits internally.

**Seetal**  
**20:41**

So, can these costs be brought down? Ashish believes they can be. He says leveraging technology and data more efficiently by using predictive analytics, virtualization of clinical trials, new signs, etc, can help rebalance the treatment cost equation.

**Ashish Ambasta**  
**20:58**

So, we can look at application of technology, for example, data led drug discovery. Which means application of real-world evidence, creating synthetic data to extrapolate and arrive at the conclusions faster, using predictive approaches, predictive analytics to predict the success or failure of a trial, leading to a more cost-effective trial. The other thing as I already mentioned, new science because of the nature of new science is much more specific and chances of success are



higher than traditional therapies. And that is what is going to drive the overall cost, if we can take into account the number of failures and the number of successes that we get, the chances of success in new science is very high, that leads to a higher efficiency in new science. The third aspect is virtualizations and hybrid and decentralization of clinical trial, which means that the subject dropouts will be less, the participation will be more, the failures will be less. Again, this will also lead to optimization of cost. The fourth one that we are talking about is regulatory innovation. We are looking at ways to create more efficient protocols rather than running long protocols, inefficiencies in protocol, can we make the protocol more efficient? Where we don't have to have too many visits, where we capture data more efficiently, where the data wastages are eliminated? That's one. How can we better manage the safety and efficacy profiles of the treatment? and all of this can happen if we utilize the technology and data effectively. When we say better ways to manage safety and efficacy, see a drug is safe if we know what kind of adverse events are expected. So by application, by utilizing the data predictive approaches, if we are able to figure out better ways to manage safety and efficacy profiles, I think that will be much more acceptable to patients and the HCP and finally, virtualization of selling which I already mentioned. Maybe cutting down on your sales force, leveraging more of technology to better engage the healthcare professionals, making sure money is being spent on digital marketing efforts so that it is much more efficient. The information is, is available to the healthcare professionals at any point that they want.

### **Production Element**

**23:17**

Vision, innovation, drive and progress. Find out what goes on inside the Heart of Change brought to you by Accenture.

### **Seetal**

**23:28**

Big changes today require bold, innovative leadership that prioritizes tech and biopharma companies are increasingly embracing new tech trends. For example, Metaverse to drive digital trial capabilities and blockchain to track consent for clinical trials, as per regulatory requirements.

Ashish elaborates how tech innovations like the programmable world can transform existing models in fascinating ways.

### **Ashish Ambasta**

**23:54**

So, so far, we have heard quite a lot about how new science is going to drive growth in biopharma and MedTech. Now, in order to derive full power or full capacity of new science, we really need the technologies that can support new science. The first technology trend that we see here is what we call as a Metaverse continuum, which is not only Metaverse but also includes technologies like blockchain, and non fungible tokens. We know counterfeiting is one of a very common problem and challenge in biopharma industry, how can blockchain come and solve this traditional supply chain problem? How can patients monetize their health data using NFTs? So these are the ways in which Metaverse continuum, blockchain, NFT, they are positively impacting Life Sciences. Metaverse has the power to engage people in a very, very engaging manner and that is what we are seeing the application of Metaverse in clinical trials. I spoke about virtualization of trial, that is where we can leverage metaphors to give an experience to the subjects, what would they go through when they participate in the clinical trial. So all that can definitely and easily be provided through Metaverse. We are already seeing products like Medabel and Science 37, they are driving lot of digital trial capabilities in the market. We also see Ecoware, which is a leading developer, developer of blockchain solution, which is used in the tracking of consent to clinical trial, which is a regulatory requirement, every patient has to consent to participation. So these are some of the ways in which we think the overall Metaverse continuum can positively impact the biopharma and Medtech. So that's about the first trend. So, the next trend is what we call as a programmable world. The disruptive technologies like XR, 5G, I already spoke about Metaverse, so that has great potential to change the existing models. When we talk about the programmable world, there are three components. The first one is connected. The second one is experiential. And the third one is material. When we talked about connected, it is all about having a connected ecosystem, where your patients are connected. By virtue of being connected, you can continuously monitor them,



you can make sure they don't have to come to the trial sites for visits, the data can be aggregated and collected while they're remote. When we talk about manufacturing, we are talking about sensor based manufacturing. IoT based monument manufacturing, smart manufacturing techniques, which means manufacturing can continue unabated. touchless. So that's the first aspect. The second aspect is experiential. What we talked about Metaverse, digital twin, how can we give that experience, a real life experience? How can we program that real life experience to patients? By virtue of being in a trial, in a virtual environment of metaverse? How can digital twins simulate the condition that we see in physical world? Certain examples like Sky House, Lighthouse facility, is the completely digitally enabled continuous manufacturing facility, that is actually 80 times more effective, it's completely paperless and completely digitized. They have complete digital twin of the entire manufacturing facility and the final layer of programmable world is what we call as material and that is where we are looking at advancements in material sciences. For example, how can we do bio printing of cells and tissues? I mean, organ rejection is a big problem, right? There are players who have very effective solutions around 3D folding of protein structures, which can be effectively utilized in bioprinting of these organs, and organ on a chip that we are talking about. So that's the second important trend that we are seeing. The third trend is what we call as the unreal, which means making synthetic, authentic. And what we mean by this is, life sciences as an industry needs a whole lot of data, whether it is during trial phase or during manufacturing patient services, we require a lot of data to arrive at conclusions. And this is where it is proposed that artificial intelligence can be a big enabler. How can we generate synthetic data from limited data that we have, limited real world evidences that we have? So that, that data, the synthetic data that we have can be used for making very meaningful decisions, right? How can we use synthetic data to make sure that the demand for subjects is reduced, the time is saved, because now, given the data that we can generate using artificial intelligence that is available, we may not need so many subjects to participate in the trial, thereby saving time and resources. The fourth and final trend that we have is what we call as computing the impossible. And this involves the

application of high performance, computing, quantum computing. We have lately seen with the advancement technology, we have huge amount of computing power that can be leveraged both in R&D as well as in the commercialization. Few examples that I can upfront think of is, how can we use quantum computing to come up with novel molecules? How can we create AI model, AI generative model for chemical structures to accelerate the time to market using predictive modeling technologies? Because if you look at a chemical molecule, these are extremely complex molecules with a lot of atomic interactions, the field forces, complex structures. It is not possible through classical computing to predict the properties, the structure of these molecules and that is where some of these high performance computing will come to the help and support the pharmaceutical effort in R&D. One example that I can think of is Cambridge-1, which is UK's most powerful supercomputer, and some of our clients are already leveraging and they have used the supercomputer to generate a generative AI model for chemical structures to accelerate the time to market. So this is just one example, even Accenture a few years ago, we had partnered with Biogen, where we had used quantum computing to come up with new possible novel molecules for drug discovery. So that's about the, the last trend that we are seeing around how can we leverage high computing power to gain more efficiency accelerate time to market.

**Seetal  
30:43**

Let's now talk about the talent side of things. This is a critical piece of the jigsaw puzzle, so to speak, that the life sciences industry needs to get right. The COVID 19 pandemic demonstrated that remote work opens up the market for difficult to find talent, and expands the competition for talent among organizations. Gopali sees a silver lining in the dark cloud that was the pandemic. The way women employees were enabled, even empowered by the digitization that followed, and the shift to the cloud.

**Gopali Contractor  
31:13**

It was opening up doors for women who wanted to stay home, new mothers or caregivers, to say,



I can actually work from home, I mean, don't need to get out of my house to contribute to the society, amazing what it did. What it also did is, I think, all of us in the IT sector, we worked very hard, but we also understood the importance of being with family, right? It was flexible, we got the work done, but we were able to then get back to our roots and values to say, you know what, this is not such a bad thing. And now we're obviously finding all other resistance to the market to say come back to work full time, I don't think most people want to come back to work full time. So, it's going to be more like a hybrid work culture going forward because, you know, obviously, the flexibility of being mom, and especially for a woman, but the important thing to note there is, that there is this talent that we've kind of discovered, that can help the economy in an amazing way. And I don't think it's only tech, right? Doctors did their work from home, we had never ever thought that would happen. Right? It was like all via WhatsApp calls that they were kind of doing video consultation for their patients. Not very, not the most effective way, but it got done. So, things that we never ever imagined, I think COVID kind of opened our eyes to those avenues and we've now got an entire workforce that we can actually leverage to kind of bring more into the businesses we try. It was exponential transformation. Everybody wanted to get on the cloud, right? Everybody who saw around wanting to get on the cloud, there were not enough people with those skills around, right? So what were you able to do, you were either upscaling, rescaling people in order for you to kind of have the skills to get our clients or our businesses to the cloud. So the the accelerated period of cloud transformation, which would otherwise have taken 10 to 15 years, and then we would have kind of been very merry about it in terms of building the talent to get to where you want to, we had to do that in less than six months, right? So that was a big shift and the type of skills that were needed, there was a dearth in the market anyway, for those type of skills. And partially, you know, this whole flexibility opened up right, saying that, oh, now I can actually work from home and I don't have to step out on the house. So it was a combination of two things, I think.

**Seetal**  
**33:32**

Ashish says, the world has now become

borderless. Collaboration and connectivity, he believes are very important considerations when talking about talent as our trust and security when dealing with competition for the best talent.

**Ashish Ambasta**  
**33:46**

So as you rightly pointed, because of the COVID pandemic, I think our world has become more borderless right, which means we don't have to depend upon location to find the right set of talent because the entire virtualization, the hybrid workforce, remote working, that makes sure that the right talent can be tapped onto irrespective of where the talent is based out of. And this is where we are talking about making sure that the technology architecture that any organization has, is able to support that kind of a working model, where people are enabled to pretty much work from anywhere and everywhere right? So that is what we are seeing. So connectivity becomes extremely important, collaboration becomes extremely important, because what we are seeing in the industry as an increased collaboration not only between pharma industry, but also we are seeing types between pharma, academia, right? So that kind of collaboration is happening very frequently. How do you enable that connectivity and collaboration and that is where the entire cloud comes into picture. How do you leverage the power of cloud to connect people to make sure People are effectively able to share ideas, work with each other, have high computing power, right? So all these can be enabled by cloud and finally, we have to talk about security because when people are connecting remotely, people are doing a lot of collaboration and in life sciences, data is extremely, extremely confidential. So that is why security comes into picture and by security, it's not only about infrastructure security, but it's also about security and trust. So how do you build that trust and security? And only after you have some of these prerequisites, I think the entire ecosystem will become borderless, and then it will enable the pharma organizations to find the right set of talent and expand beyond what their competition is doing.

**Seetal**  
**35:46**

Now Accenture is playing a significant role in helping the development of new science. For





instance, Accenture enables life sciences, CIOs reimagine their technology architectures to disrupt the way they deliver improved outcomes for patients.

**Ashish Ambasta**  
**36:01**

From Accenture, what we are doing is, as I said, Pharma as a large value chain multi-dimensional industry requires support in data supporting new science, right, and also supporting engaging the patients, their customers, the HCPS, their own sales force, enabling the researchers. So, we at Accenture, we have a very broad based, a very broad spectrum offering, which is predominantly fourfold. The, at the top layer is our offerings, which are industry platforms. For example, we have industry platform in TNT, which is a homegrown platform, which we partnered with Google to develop for the industry. It has products in clinical space, services space and new science cell and gene therapy that solves a lot of challenges related to patient services, accelerates the trial by in excess of 25% in areas where this application, this platform is used. The second platform that we have is around Mike and Chateau, he has, it has pre-configured scenarios using which any organization can implement some of these industry platforms quickly. And finally, on the industry platform, we also have the My Industry for Medtech, which has a lot of use cases on connected devices, which is the future, which a lot of our clients are asking for. So these are the first set of offerings that we have, which we call as industry platforms, then we have industry solutions, right? And when we talk about industry solutions, you heard about research and development. And in research and development, we have lab applications, scientists who work in lab, chemists, biologists, right? They so, they use a lot of lab applications. So how can Accenture support some of those lab applications? So, we have whole offerings around lab informatics, we heard about drug safety, which is an extremely critical aspect that every organization is an entire industry focuses on. So we have offerings in drug safety, where we have expertise in implementing and maintaining industry leading products like Oracle Argus, Viva safety. And then we have other intelligent platform services, which includes sales force. We have Cloud First where we offer our data analytics and AI capabilities and solutions to our client. So, all of

these come under industry solutions. And then we have Enterprise Services, which is the third set of offering, which is around industry X. I spoke about connected devices and the digital twins application of digital twins in life sciences. We are talking about security, you heard about trust and security when we, I spoke about the talent and anywhere and everywhere. And then data services that data is extremely important., how do you analyze data? How do you make sure proper insights are derived, proper decisions are being made. So, all of these services are being provided by Enterprise Services. And finally, we have compliance, compliance is extremely key to this industry. We have to make sure, because lives of patients are at stake, we have to make sure anything that happens in industry is fully compliant to the regulatory and GXP processes and that is an overall offering that we have that cuts across almost all the areas that I spoke about. So that's the life sciences GXP compliance offerings that we have. So these are the various end-to-end services which we offer to our client, which our clients are effectively utilizing in not only accelerating the trials but also making sure that the overall outcome of the patients are much enhanced.

**Seetal**  
**39:47**

Ashish and Gopali share a few cases where Accenture as a partner of the life sciences industry is collaborating with companies to accelerate innovation and efficiency through data led transformation, listen in.

**Ashish Ambasta**  
**39:59**

so Intient, as I said, is one of our platforms that we are offering to clients. And one of the client that I'm going to talk about had a lot of problems in conducting clinical trials because they were running worldwide trials, they had different contract research organizations who were doing trials in different locations, they were sending data to the organization in different format. So standardization was a problem, data aggregation was a challenge and that is where our Intient platform really helped our client to make sure that data aggregation is done at a much accelerated pace, right. The data's standardization happened at real time, the data consolidation, which happened, that gave them



a data hub based on which there were a lot of analytics which were developed, using which they could track the progress of the trial, make changes to the trial protocol, make certain decisions related to the progress of the trial. So that is how Intient was positively able to influence and accelerate the trial for one of our key customers. The second example that I want to give is on the cloud, one of our client, and this is a published story for Novartis, with, they are on a path towards a multi cloud ecosystem within their organization. So as you know, pharma organizations are huge, the, the business process is pretty elaborate cutting across R&D, supply chain commercial, manufacturing, and if you look at any typical pharma they have 1000s and 1000s of applications, which are generating very valuable data. But as we stand today, they are all disconnected and there is an inability to leverage the data which is residing in one part of the organization to make a meaningful decision in the other part of the organization. So that is where we helped Novartis come up with a multi cloud strategy and also helping them implement that, where we have set up a multi cloud infrastructure, which is able to connect to all of these diverse applications across the value chain, thereby consolidating the data and providing those analytics and data capabilities to make sure the data is, can be analyzed, looked into and then helping the business to make meaningful decisions out of that.

### **Gopali Contractor**

**42:19**

Talk about work that we've done at a pharma giant. So, all of pharma's documentation, the regulatory requirements are very, very stringent, right. And there's a hoards of documentation that needs to be filled out, needs to be verified before it's submitted to an organization such as FDA. Now, imagine people reading pages and pages of documentation, digesting that documentation and then kind of filling a form that is needed for the FDA. If with the help of AI, NLP, etc., they were able to get an aggregate of all the documents that were available, and then be able to use that, read that and then fill in forms, it would be amazing, right? So that's what this pharma giant head do. So, in fact, as part of the drug discovery, this is an amazing use case, that's called out to say that we've kind of lessened the 10 year period to now almost six

months, right, that's huge in terms of, and it's with higher accuracy, because as humans, we are likely to hurl right? Important thing to note is the human is always in the loop. So the issue of it being whether it's verified versus not is kind of not part of the loop. But that was one of the best examples that we came across through the pandemic to say the, how the pharma giant completely changed the way they were working, and then processes.

### **Seetal**

**43:39**

Accenture is also helping its biopharma and life sciences partners embrace innovation to improve work life balance within their organizations. This holistic approach populates into the cultures of those organizations. Gopali and Ashish explain how this benefits companies, the partner, client ecosystem, and the industry as a whole.

### **Gopali Contractor**

**44:00**

At Accenture, we believe in bringing your whole self to work. And what that means is Gopali gets to do whatever she likes through the workday, and I don't even look at it as a workday, through the workday that she spends her time in Accenture at, right. So it's all about you know, opportunities such as this, right? I love to talk to people, I love to share experiences, opportunities that just present themselves and saying, you know, I am doing the core technology work, but I'm also able to contribute a little more or provoke thoughts, right. In the external forums to say, you know, how are we doing from an organization standpoint. Another way that we kind of do it is, you know, we are always encouraged to take time off and through the pandemic, we were always encouraged to take time off so that you can get back your Josh and come back to work 200%. But I think most important and what I've realized and I've worked with various firms across the globe, and, and this is a very genuine statement when I say that I've not seen a firm that has been able to actually support the work life balance. So I'm able to, in my day workout, be a mother, contribute to Accenture as a business leader that I'm able to go for my work, for my mental well being in the day, and then have a bunch of friends that I can reach out to whenever I need to right, all this in a day's work. That's what makes it very, very



special right to work for Accenture. And thus, you know, being a woman, I take part in a lot of inclusion and diversity initiatives, so that kind of, bringing that back into society, whatever you kind of, your experiences can help other women kind of do better in their life. So, it's absolutely holistic. So, we at Accenture, kind of practice what we preach. So, the way we work translates into how we are delivering for our clients as well. We produce an initiative called Her Cloud in January last year, and this is about upscaling and rescaling and helping them upskill to cloud skills and then getting them, you know, on a project or making them productive within Accenture. But a program outlines want to also, you know, help us enable them with this program, right. And it's strange, because after the pandemic, we've seen client asking for this much more than otherwise, forget the diversity, please. But yeah, how do you motivate your people to work at the pace that they do, right? Unless this type of a framework exists, this is not possible, because finally, if we motivate our people, that's the work that they take to the client, and then the clients come back and say, you know, we'd like to kind of engage in something like this in the way you're doing it. So it's kind of contagious, right? And I think what is very, very contagious, so it just goes around.

**Ashish Ambasta**  
**46:39**

So first thing, what we did was, for some of our clients is, it is assumed that there are a lot of activities, which can only be done in person, say in lab, right. But when we double clicked and analyze some of those activities, we realized that a large number of activities don't require people to be in lab. So, we help clients identify some of those, and then enabling the people, say, in this example, the researchers enable them to carry out their tasks while not being in the lab, right. So that was one thing that we did. I already spoke about virtual engagement of HCPs. Why do you need to spend so much of time in travel, traveling to a healthcare professionals location? Can we use digital technologies, virtual engagement to cut down on some of those travel time that is there and yet achieve a much better engagement as opposed to those physical Connect? Right? I spoke about the application of Metaverse, how can you improve engagements virtually, right? So Metaverse is, is known to provide that kind of an

experience where people can come together on a Metaverse platform, experience can be engaged virtually right, allowing perfect flexibility. One of the things that we are working on today is, can a lab researcher trigger a lab workflow by being at home right? Maybe into Metaverse, trigger a robot, which in the backend, in the lab actually does that experimentation. So, this is something that we are working on, right. And finally, we have to look at productivity, right. Productivity and efficiency, and this is where technology, automation, whether it is robotic automation or application of artificial intelligence, how can we use some of these to make sure that the efficiency is greatly enhanced, right? So once the efficiency is improved, then of course, the time spent in doing some of these will reduce, leading to a much more better work life balance.

**Seetal**  
**48:37**

Gopali and Ashish paint a compelling picture of the future of work in biopharma and life sciences, remote work, including research and lab work. As tech improves, and more functions are automated, the requirements for newer, better suited skills that define a modern workforce will also evolve. So what are the main skills that one needs to thrive in this fast-evolving industry?

**Dr.Sandeep Athalye**  
**49:00**

I feel, also irrespective of your functional expertise, I think everybody has to be savvy in two things. I think on the business end, how does it affect the overall business, I think, an understanding of that and how to apply technology. And I just don't want to say that everybody needs to learn coding and learn technology that way, but really understand what technology could be helpful and really see the applications of various things that could be helpful, so that they can reach out and ask for their help. A basic understanding of how technology could help in each of these functions is going to be critical.

**Ashish Ambasta**  
**49:38**

So I spoke about some new science and how new technology is driving that new science. So it is important for this industry to have a



combination of both. All the experts in both, and we need to have talent that has at least awareness of both right? For example, we also need, while we need experts in genomics, proteomics, molecular biologists, we also need them to know, artificial intelligence, data analytics, right? So that they can effectively see, how can they leverage technology to bring out the best from some of these scientific streams. And on the other side, we also have technologies, right? We have cloud professional, we have AI and data professional. So knowing data, and artificial intelligence is not enough. We also need to make sure that our data experts, our cloud, experts have an understanding of the scientific aspects that I spoke about. It's important for our data scientists to understand clinical data right, in order to design algorithms that will work on clinical data. So these are some of the top skills, so in isolation, we need scientific skills, data skills, right? Cloud skills, technology skills, but we also need these experts to be aware of the other side of the equation also.

**Seetal**  
**50:56**

While Dr. Athalye and Ashish spoke about the tech and business skills, Gopali believes that a growth mindset, one with an open mind that is willing to learn, is critical for anyone to be able to thrive in this exciting field in the coming years. That and of course, data and AI.

**Gopali Contractor**  
**51:12**

First and foremost, I would say it's adaptability and that's not a tech skill, and openness to learn. So you got to have a growth mindset, it doesn't matter what level you're in, you may be in your 20s, or in your 50s, you got to be able to enable that growth mindset because I'm learning every new, something new every day, right. as I go through my day. And if I will shut and not absorb what I'm learning, then that's actually going to be a mood discussion in the future. It is, in a way, a personality trait, but now I don't think it's an option anymore. If you want to survive in the tech industry that's growing so fast and changing so fast as well, that's one. Second is, one space that I think undermined and not defined very clearly is, bring your other skills other than your tech skills. If you're doing something outside of it, bring that into the work that you're doing. for

example, creating a presentation, if you are a dancer, or if you love to listen to music, you already have that creative component and you do not necessarily have to think about it, compartmentalize those two aspects of your personality, right. So bring that in together and you see what a beautiful thing you'd create. So, I think that should be very conscious and I always harp on that. And last but not least, skills, right? Skills is the easiest part if I may say so, because you could easily take a course and actually be very, very fruitful to the course that you're taking and upskill yourself, raise your hand and get into the project and you, you're now, you know, skilled in that particular area. If you talk about cloud skills and that's how Accenture did it right, we kind of shifted a whole workforce on very traditional Java skills, for example, or dotnet skills to become cloud developers. Not an easy thing to do but it was done. It was structured learning, you know, it was a follow up sort of follow up series, obviously. But there was this whole gamut of learning courses that were available to us. Like today, if I wanted to learn a new skill, there's a whole learning and knowledge management organization in Accenture itself that had to do that, right. So as we go, and I'll talk about the cloud continuum, because that is the most relevant, you know, cloud transformation, compressed transformation, talking about, you know, migration, modernization, and then you talking about data and AI. The next big wave is data and AI, data is already here, but AI is coming, and if you're interested, you must scale up very, very quickly. So look for new signs in the market to say you know, what is the scale that is going to be relevant, and also what I'm going to be interested in and, and then, then it all sorts itself out. But I think the first two are quite conscious and quite relevant as well.

**Seetal**  
**53:52**

Hyper personalization is the name of the game for the workforce of the future. Accenture is helping companies, clients, partners, etc. identify skill gaps and create personalized learning and upskilling experiences for their workforce. Ashish and Gopali, explain how Accenture is helping shape the future of talent.

**Ashish Ambasta**  
**54:12**



So, we often discuss with our clients in the kind of work that we are doing, what kind of skills may be required. For example, if their objective is to, say increase productivity, how can we bring in say automation? How can we bring in artificial intelligence? How can we bring in the understanding of data? So, we identify what is what is required by a pharma organizations to meet their objectives. And then we look at what kind of skills they have, are they operating in the new, are they still using some of those legacy techniques or applications? And then we determine what is, what is the gap? Where do they need to go in order to leverage some of these new technologies, which are required to run their business as far as new science is concerned. And then we have a whole lot of trainings that we use to train our own people, right. So we also offer that as a service, right. And some of our clients have been very keen to leverage some of our learning platforms also, to upskill their own workforce. So this is increasingly happening, more and more requests are coming from client as, as we approach more clients in some of these opportunities, which we are working on.

**Gopali Contractor**  
**55:23**

It's a two-way street. One is, you know, your initiative, or you're wanting to do something and second is people coming to you and saying, you know, you got to scale up in in these areas. Now, wanting to do something is, we have something called iAspire, and that's some says, you know, I want to reach out, I want to create a mentor list and reach out to people to say, if I'm doing work in data, I'd like to also do work in AI, or upskill, to AI. So that's an entire framework that we've built within Accenture to say, people can actually raise their hands and say, I want to upskill but I also want to work in that area, it's not enough to just upskill right. So that gap is now being met by people taking their own initiative, because nothing like you know, you going on your own and then and being ready for adapting what changes are right? that's one. Second is, we've been very intentional, I touched upon Her Cloud as well, to say that for cloud skills, a set of cloud skills, what are those traditional skills that can be mapped, right? We go to market with those traditional skills, because there's a dearth of talent in the market anyway, not many available. We tell these

women and this is specifically for women, but we can do it across. Tell these women that, on our dime, we're going to hire you, we're going to train you, we're going to give you a community or a mentor, mentorship network, and you'll be cloud skilled. So you'll be very relevant in the market, you'll be part of a community, women love that, right, to be able to give back. And you will have the experience to work on the project, so you're becoming relevant within a matter of three to four months. That's an amazing proposition. Right? Very, very attractive proposition and we've been able to hire lots of women through that. So that's again, you know, a closing the gap of what exists from a traditional standpoint, verses where we want to go from a scaling standpoint. That's just one example, but there's an entire learning framework, we call it the pie, the T, Sapphire, like if you have depth in two skills, these, if you have depth in one scale, but you know, horizontal, all across. So different constructs for different types of roles that are needed to deliver projects. But Accenture is huge into, into learning and development and we spend a lot of money in that.

**Seetal**  
**57:33**

This brave new direction that the biopharma industry is taking, poses its own challenges in terms of talent. Biopharma companies need to step up and rethink their talent strategies in order to overcome talent shortage and strive to attract and retain the right mix of talent.

**Ashish Ambasta**  
**57:50**

I used to make this statement earlier while conducting training that, Pharmascience is much more complex than rocket science. More than 100 disciplines are involved in just the R&D, the drug development and discovery, right. And it is absolutely or near impossible for any organization to have all the kinds of skills, we need biologists, we need chemists, we need statisticians, we need people with legal background, we need people with medical background, right. So, all sales reps, so all kinds of people are required, all kinds of skills are required. And if we add new science to the overall dimension, then the entire complexity increases manifold, we need people with genomics, proteomics, we need people with data science, all kinds of skills are required. How can



they have all of that? and that is where we are seeing increased collaboration, increased partnership happening between different organizations, academia. And wherever it is not possible to maybe partner or get that skill, maybe rescaling on an upskilling of the current set of employees, they are also a top priority for some of our clients and that is what they are currently doing. Some of them are already on the journey towards rotating their entire talent into the new mix. So that is what we are seeing and that is the effective way, as I said, a little collaboration, partnership and then taking an approach of rescaling and upscaling their entire workforce, in the boundary less and borderless infrastructure and ecosystem that we talked about.

**Seetal**  
**59:28**

Collaboration, partnership, innovation, a willingness to learn and fulfilling unmet medical and healthcare needs. That is the future of biopharma, and life sciences as it strives to transform patient outcomes in the years ahead. A new science, what our guests describe as a potent and promising combination of science and technology is at the very heart of that transformation, sweeping this vital industry. The pandemic played a definite part in kickstarting the future of biopharma in a manner of speaking. As the industry embraces automation and upskilling the workforce globally, it is all set for a major uptick in profitability and in realizing its vision of improving access and fulfilling patient needs. Many thanks to our three guests Ashish Ambasta, and Gopali Contractor of ATCI. And Dr. Sandeep Athalye of Biocon Biologics for joining us on this episode of Inside the Heart of Change for sharing their insights and simplifying a fascinating domain, that is becoming ever more critical for our well-being.

**Production Element**  
**1:00:31**

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