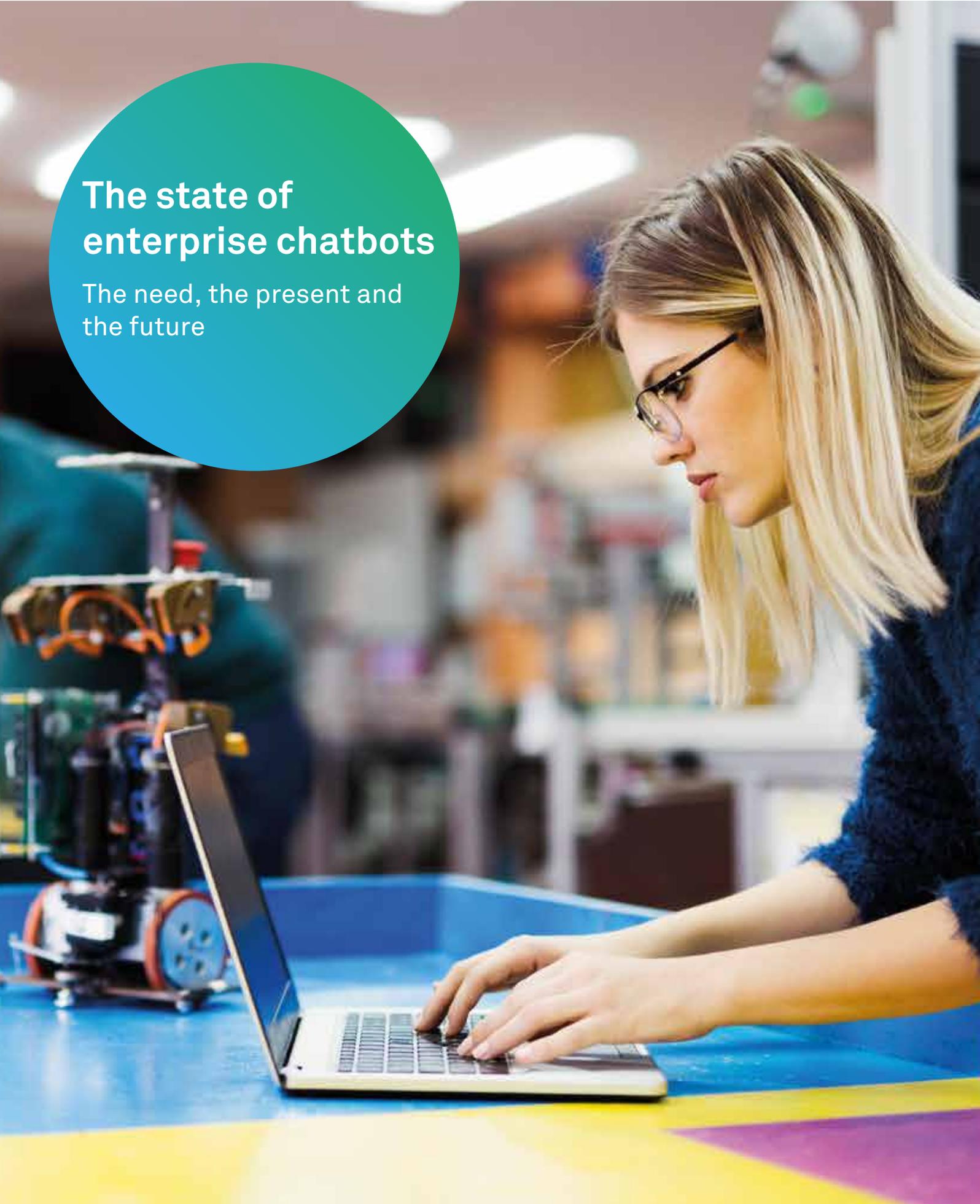


The state of enterprise chatbots

The need, the present and
the future



Chatbots have been around in the market for a while now, but with added capabilities of Artificial Intelligence (AI), Machine Learning and Natural Language Models, the applicability of these chatbots in enterprise scenarios has been boosted significantly. With these added capabilities, enterprises are entering the era of ‘Smarter Cognitive Assistants’ from the traditional ‘Dumb Scripted Chatbots’. The smarter cognitive assistants add value with a simplified process and reduced SLA, reduction in overhead costs, superior experience and boost in productivity. With years of delivering digital transformations, we have seen that typical enterprises with an application landscape ranging from 500 to 5,000 apps see chatbots as the tool to bridge the gap between disparate systems by providing a single interface to business users. Chatbots thereby address the underlying complexity and the originating need for them- Ability to interact with complex technical systems in a humanized way.

Although there is an increased adoption of strong digital strategy in enterprises, we still observe the inclusion of cognitive assistants to be limited at a strategy level. We are seeing an increased trend amongst enterprises planning pilot chatbots across disparate business units in their IT spend. Even with this trend, the outlook toward chatbot implementation still remains a ‘glorified experiment’ just to create a ‘wow’ factor. Without defined chatbot strategy and limited knowledge within enterprises, the present state of the market is both crowded and fragmented with multiple technology options. Within enterprises, today the chatbot requirements are driven by individual business units and IT groups and fulfilled in silos with best-fit technology available for a particular use case. The way to go forward amidst such chaos is to build a strong strategy aligned to the digital transformation journey of the enterprise.

“By 2021, 15% of all customer service interactions will be completely handled by AI, an increase of 400% from 2017.”

– Smarter With Gartner

“There has been more than 160% increase in client interest around implementing chatbots and associated technologies in 2018 from previous years.”

“By 2022, 70% of white-collar workers will interact with conversational platforms on a daily basis.”

– Smarter With Gartner

Toward a strong enterprise chatbot strategy

The chatbot strategy should essentially converge with the enterprise’s digital transformation journey. The mission is to transform navigation experiences to smarter conversational experiences. This starts from identifying the right use cases with a long-term roadmap for having a thorough, human-like conversational experience,

which is driven by AI, Machine Learning and Natural Language Models.

Incorporating the above spirit, we have developed a few guiding principles for chatbot, which will help enterprises move in the right direction and enhance user EXPERIENCE:

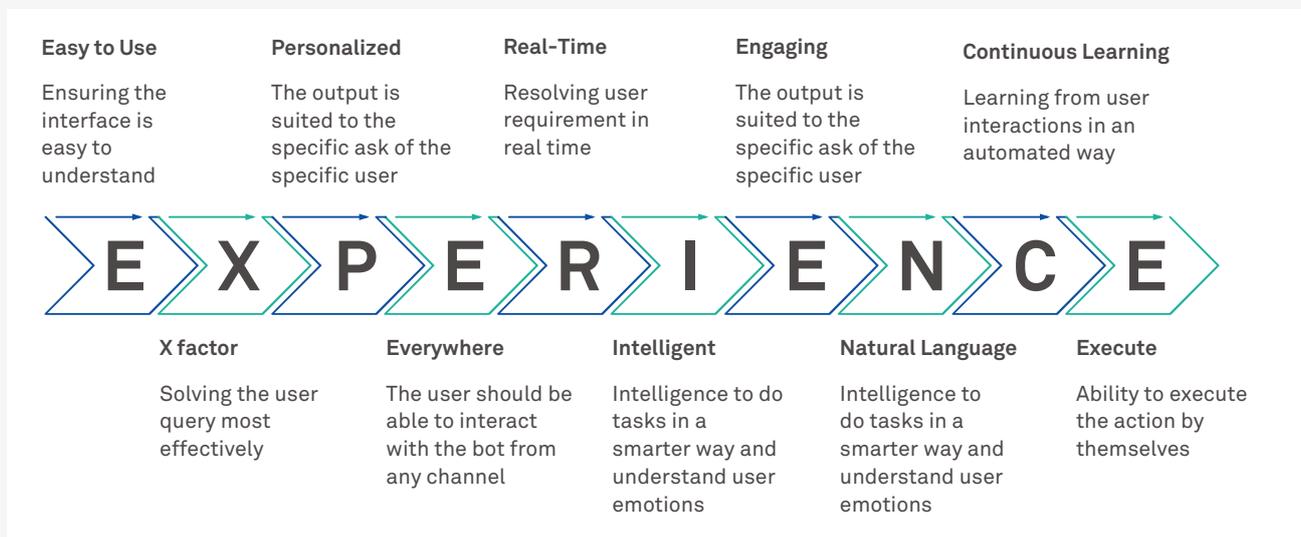


Figure 1: Guiding principles for chatbot

Based on these guiding principles, we have developed a framework which helps enterprises adopt a robust chatbot strategy and helps answer typical questions faced by them like:

Where to start? Which technology to choose? How to scale it? How to integrate it with LoB Applications? How to make it smarter? How to know if this is the right direction?

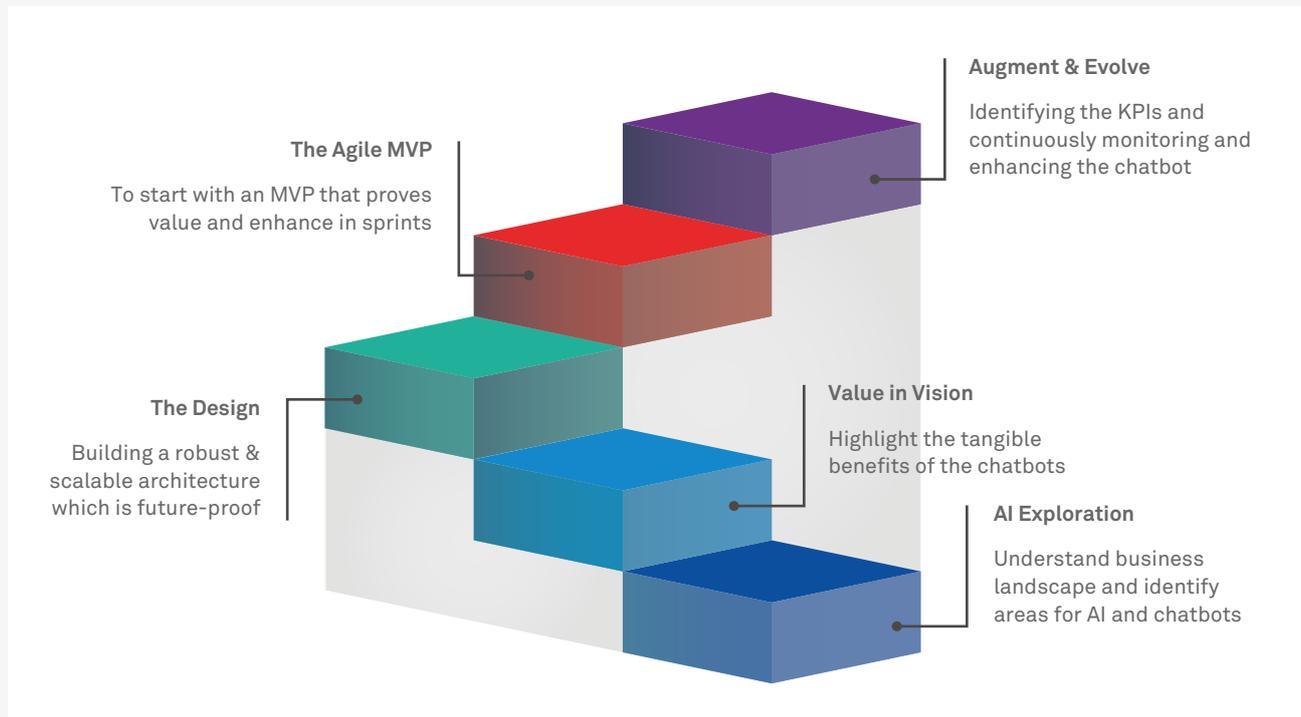


Figure 2: Framework to build chatbot strategy

AI exploration

Explore areas where conversational experience can be brought in. Identify the automation scenarios and map the user journey to empathize with user and enhance the experience at each touchpoint. Once the user journey is mapped, how best intelligence can be infused in the chatbot to enhance user experience should be assessed. A good starting point is a chatbot with self-service capabilities helping users in processes such as onboarding, access management, FAQs etc.

Value in vision:

The enterprises should start small but should keep an eye on the future. Once the areas and business processes are identified, it is important to assess the tangible benefits and user value proposition. The transformation that the enterprise wishes to deliver must assess the ‘Should have’, ‘Could have’ and ‘Shouldn’t have’. A strong roadmap needs to be built with a strategy to achieve it. Once this is created, a cost-benefit analysis of the investment should be performed and investment should be optimized.

The design:

Once you have established the use of a chatbot, and have a roadmap to get a conversational interface, it is very important to build a chatbot architecture which is robust, scalable, agile and designed while keeping in mind the cognitive requirements. Enterprises should build reference architecture using best-in-class platforms and products, which are best fit to solve the need while being cost effective. The other consideration while designing the solution is the run cost of the solution, KPIs and the analytics behind it.

The agile MVP:

With a strong roadmap, the aim should be to achieve the vision in small steps. Sprint planning for bot development should adhere to the vision and align with CI-CD ideology helping users to test fast, and eventually help the bot to evolve. Each sprint should end in adding value and target the next Minimum Viable Product (MVP). The Agile MVP enhances as the bot augments and evolves with new use-cases being added and the corresponding benefit it delivers.

Augment and evolve:

The critical component of any new technology adoption is dependent on change management. This begins with understanding the KPIs and effective communication on the rollout. KPIs for bots could be different depending on the purpose it serves like user adoption, cost reduction, enhanced experience etc. The bot needs to be measured on corresponding factors and new user stories can be added in the backlog as the bot progresses. Another key component is bot lifecycle management and monitoring user and bot behavior as the chatbot progresses in the lifecycle. As the adoption grows, more cognitive abilities should be added which can further enhance the value of the chatbot.

With the above framework, enterprises can achieve the best suited cognitive assistants for each use case. This could leave the enterprise with high-performing bots with multiple technology products and platforms.

Solving the multi-chatbot problem: Master Child Architecture

Chatbot products and platforms are a mixed bag, with products being ready for use cases, are faster to deploy, have trained NLP and are easy to integrate. The restriction is however scalability of the features; the scalability is limited to the service provider. The platforms are however tailored to specific needs and can be scalable to different features as needed.

Product vs Platform:

Product	Platform
Use case specific chatbots	Framework to design specific use cases
Lower level of customization	High degree of customization
Faster realization with low setup time	High time for implementation

So, which one to pick? This question has led to the development of Master Child Architecture.

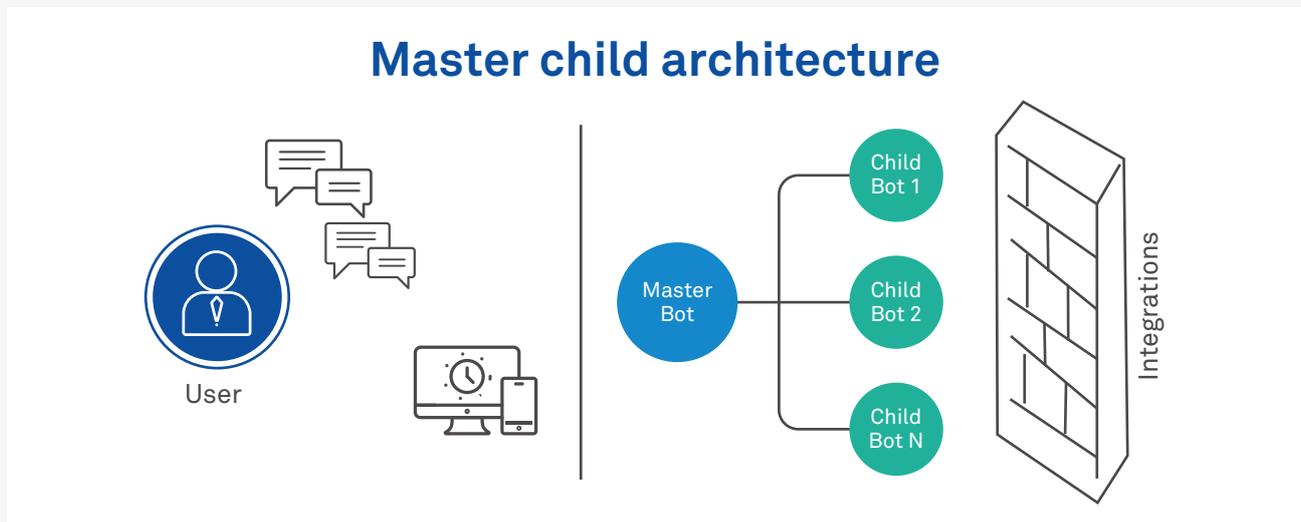


Figure 3: Master child architecture

The Master Child Architecture has a master chatbot intelligent enough to triage the user query and intent with enhanced NLU capabilities but does not execute the process. It invokes a child bot and passes on the information gathered. The child bot is built for that specific purpose and executes the process.

Going ahead

With these guiding principles, frameworks and thought leadership, chatbots could evolve further in becoming a major contributor to the enterprise's digital valuation. This can help enterprises in revisiting their chatbot initiatives and making them future-ready and maximizing the output.

About the authors

Shantha Bai

Solutions and Innovation Head
Microsoft practice - Wipro

Shantha has over 19 years of experience in solutions, IP & innovation on Microsoft applications. She specializes in architecting enterprise digital solutions in the area of conversational AI, automation and mixed reality. She focuses on technologies such as Azure, cognitive services, Dynamics 365, Office 365, HoloLens, IoT and Blockchain.

Devanshu Kulthe

Solution Consultant - Microsoft Practice - Wipro

Devanshu has been a Solution Consultant in the conversational AI space for over 3 years, and has designed and implemented cognitive assistants for enterprise customers across geographies. He specializes in delivering business outcome driven solutions on the next gen Microsoft AI platforms for various domains.

References:

1. Gartner, Smarter With Gartner, “4 Trends in Gartner Hype Cycle for Customer Service and Customer Engagement”, Jordan Bryan, Sep 10, 2018
<https://www.gartner.com/smarterwithgartner/4-trends-gartner-hype-cycle-customer-service-customer-engagement/>

**Gartner does not endorse any vendor, product or service depicted in its research publications, and does not advise technology users to select only those vendors with the highest ratings or other designation. Gartner research publications consist of the opinions of Gartner's research organization and should not be construed as statements of fact. Gartner disclaims all warranties, express or implied, with respect to this research, including any warranties of merchantability or fitness for a particular purpose.*

2. Gartner, Smarter With Gartner, “Chatbots Will Appeal to Modern Workers”, Laurence Goasduff, July 31, 2019
<https://www.gartner.com/smarterwithgartner/chatbots-will-appeal-to-modern-workers/>



Wipro Limited

Doddakannelli, Sarjapur Road,
Bangalore-560 035, India

Tel: +91 (80) 2844 0011

Fax: +91 (80) 2844 0256

wipro.com

Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have over 175,000 dedicated employees serving clients across six continents. Together, we discover ideas and connect the dots to build a better and a bold new future.

For more information,
please write to us at
info@wipro.com

