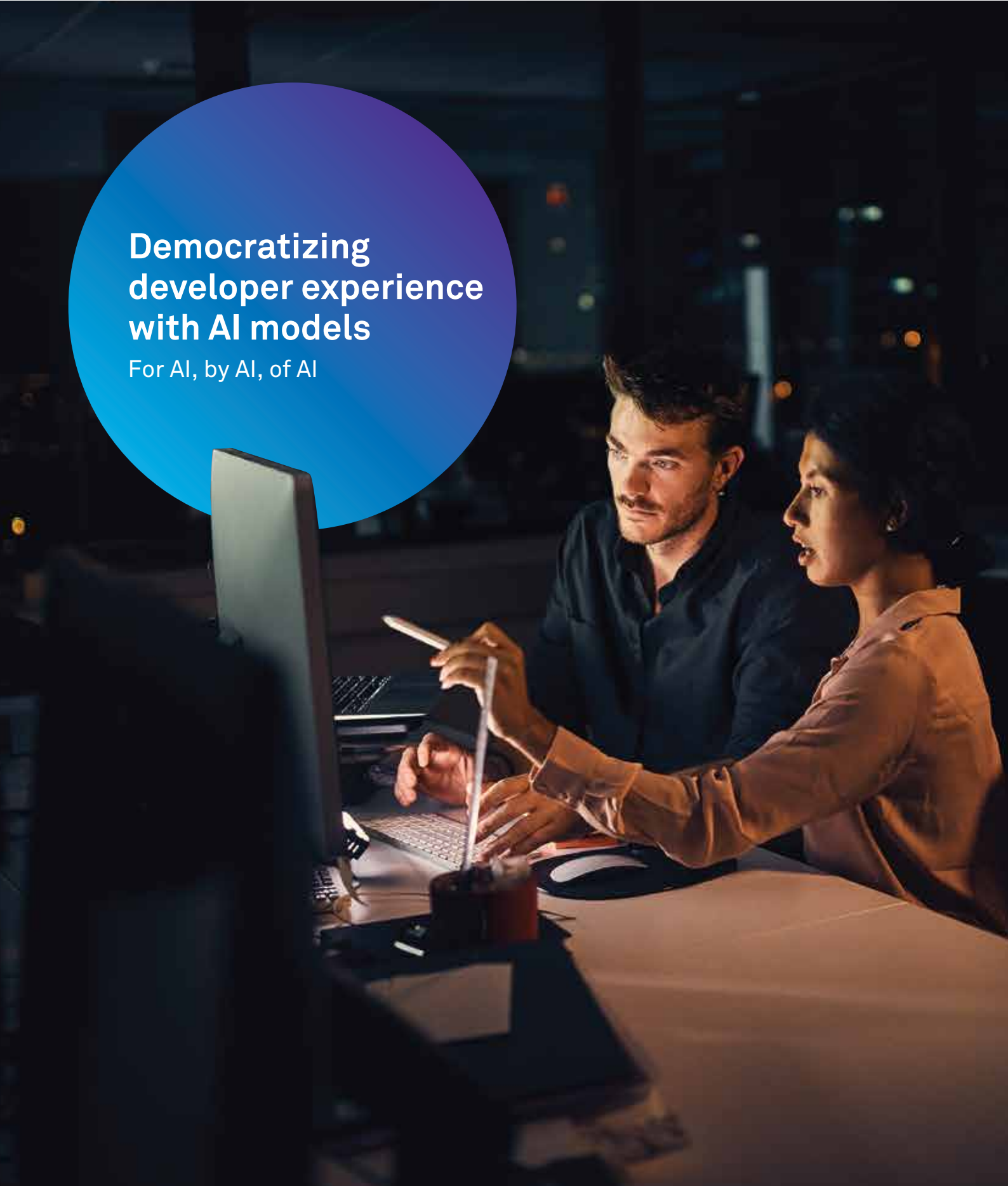




# Democratizing developer experience with AI models

For AI, by AI, of AI



## Key takeaways

- AI is democratizing developer experience
- Illustration of models and use cases
- Realization of use-cases using Azure

## Enterprise digital journey:

Organizations are at a unique juncture where most of them are in the process of embarking on digital transformation journeys. While digital transformations entail a gross change in the end user's interactions with applications, they also involve adopting a paradigm shift in the way engineering needs to be done, compared to the traditional approach.

End users are already experiencing the power of what smart applications can do in their daily lives. Be it real-time traffic congestion alerts, targeted product recommendations or asking a Cortana-powered speaker to order our daily groceries; these experiences are conversational. Also, they feel natural, can figure out our intent, are predictive and are uncannily prescient. We are reaching the tipping point and soon we will see smart applications proliferate into the way end users do business interactions across multiple domains/ industries. Each of these

industries/ businesses will need to evolve their current IT applications into entirely different interfaces that facilitate same-newer business processes for end users. The enterprises of yesterday have to embark on this journey to adapt to changing needs of end users.

This change would involve adopting new 'as-a-service' models, culture that is agile, design thinking led, full stack led, value stream that is BizDevOps, and powered by 'cloud native' platform with 'intelligence' infused at every level.

**Adding intelligence into applications for democratizing developer experience:** While enterprises will look at infusing AI into every application, we will look at how pre-built AI models and tools can help accelerate infusing AI into applications. This helps in democratization of developer experience by ensuring a much easier way of leveraging AI and best practices in applications. The more developer-friendly the models are, the easier they can be adopted by developers and enterprises.

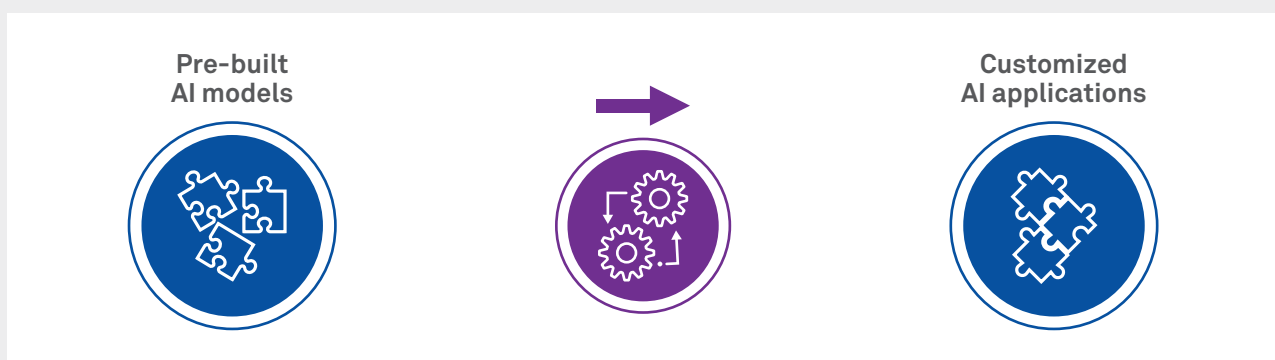


Figure 1: Assembling customized AI applications from pre-built models

This paper looks at three sample components which could potentially be used for infusing AI and accelerating the digitization journeys for customers.

1. AI-based face recognition
2. AI-based image classification
3. Virtual CoE as-a-service with AI infused

### Detailed view:

**1. AI-based face recognition:** Facial recognition can be used to recognize a face based on contours.

With this technique, applications can leverage data that defines facial details as well as any additional information about the individual and

then create new ways of interactions. The global 3D facial recognition system market is expected to grow at the CAGR to over 36% from 2018-2022.

Facial recognition can be effectively leveraged to solve many problems across verticals such as

banking, healthcare, residential security, and travelling without hassle etc., and horizontally across domains as well. It has matured quite a lot over the past few years and is fairly accurate.

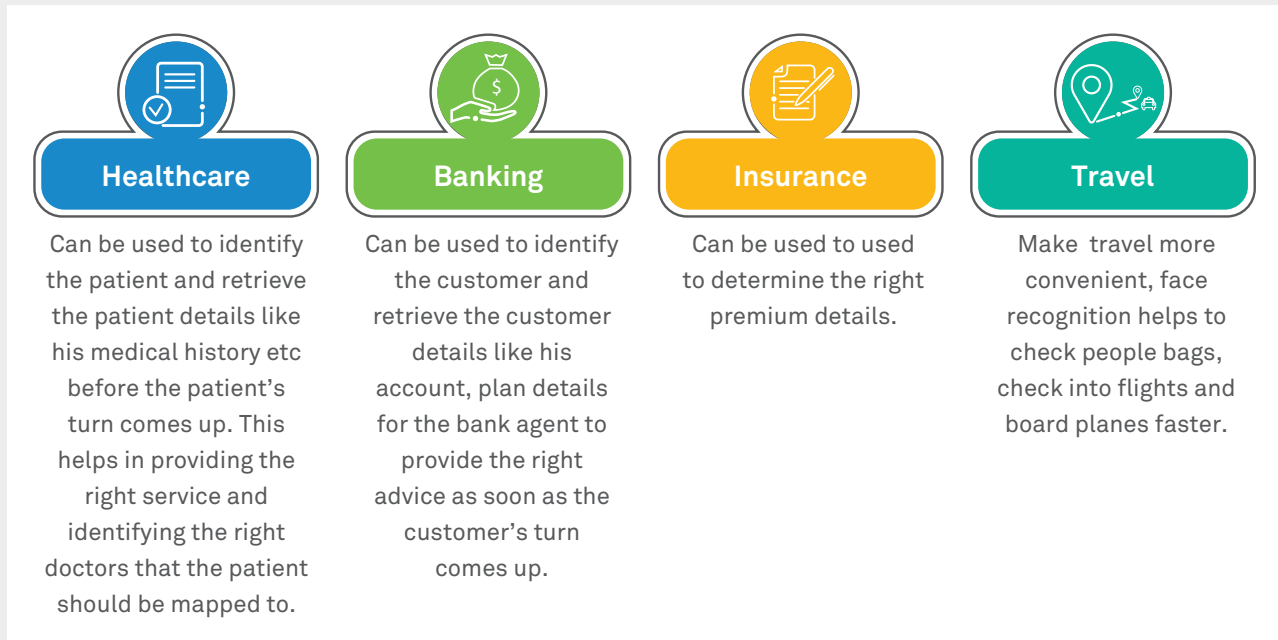


Figure 2: Use cases for face recognition

**Use-case realization using Azure:** Azure face APIs can be leveraged to validate identity at ATMs.

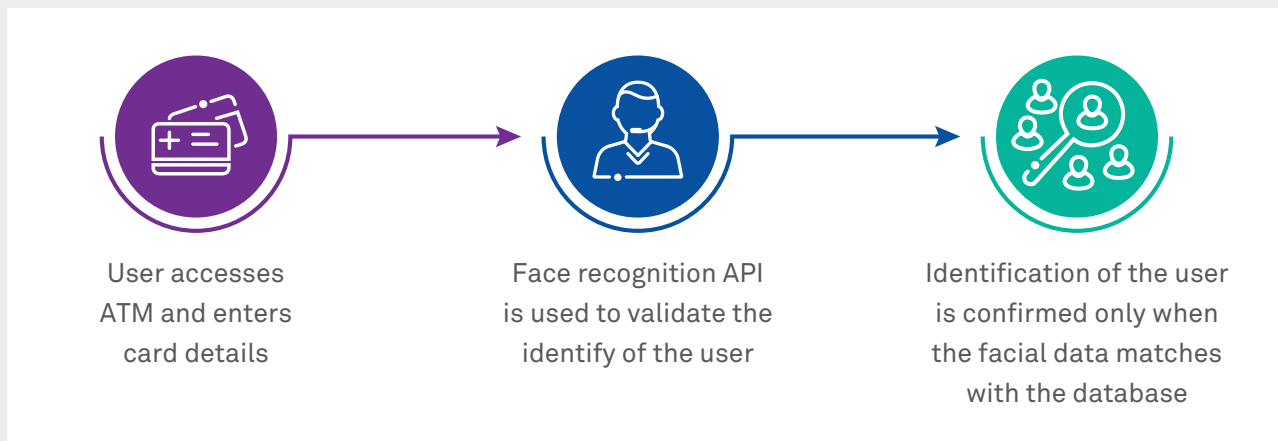


Figure 3: Azure face API being used in an ATM center

**2. AI-based image classification:** With an increasing adoption of autonomous and semi-autonomous vehicles, drones (military and domestic purpose) wearables, and smartphones, the global image recognition market looks all set

to account for over \$20 billion in the coming years and is expected to double by 2022.

Some of the use cases are illustrated as follows:



Figure 4: Use cases for image classification



Use-case realization using Azure: Bing search, custom vision, data and security APIs can be leveraged.

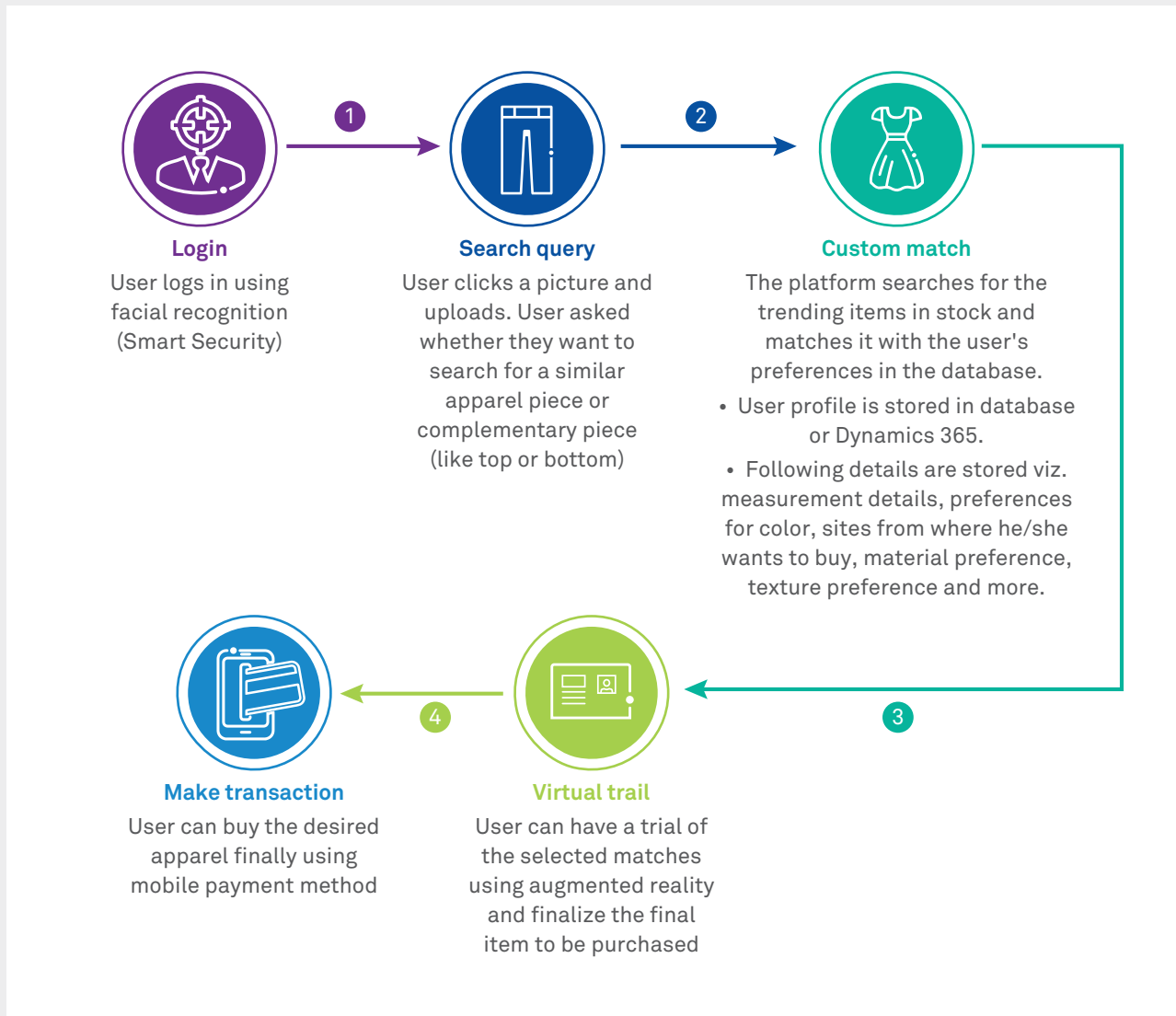


Figure 5: Retail use case for image classification

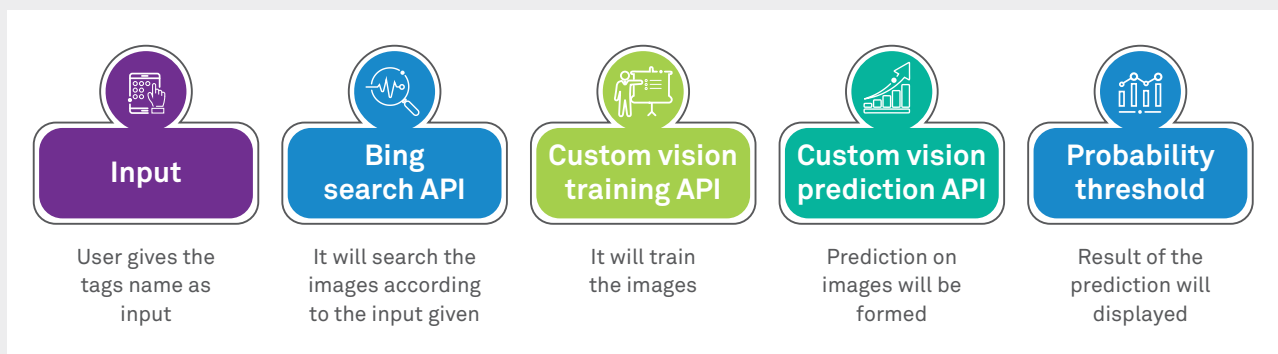


Figure 6: Workflow for auto classifying and training images

**3. AI infused virtual CoE as-a-service:** As enterprises are embarking on their journeys, having a virtual CoE as a service helps in infusing best practices, templates and a governance mechanism into the adoption process, and can accelerate their innovation journeys.

An AI-based virtual CoE helps in constantly learning and providing the right guidance and reviews. AI can help in self-learning and providing the right guidance to projects ensuring delivery assurance, best practices adoption etc. Learnings and pattern analysis can help recommend based on past execution experiences.

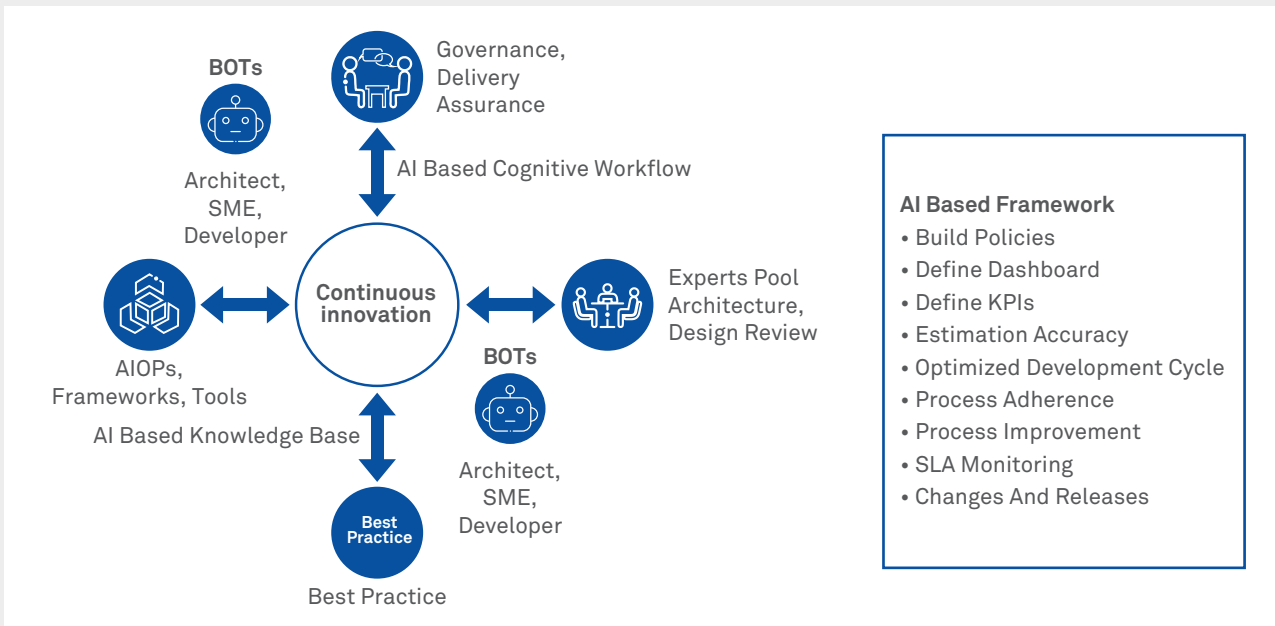


Figure 7: Virtual CoE in action

- Providing thought leadership and direction.
- Establishing and promoting best practices, tools, technical development standards, delivery assurance.
- Measured by KPIs.
- Industry-proven practices and trends.
- Reference architectures and blueprints.
- Improving ROI through the identification and development of reusable assets.
- Reducing delivery times, development, and maintenance costs by increasing efficiencies and leveraging reusable assets.
- Identifying and reducing duplication of effort across initiatives within the practice or enterprise.

**Use-case realization:**

- The user can interact with a BoT, which will surface the knowledge stored as best practices reference architecture etc. using cognitive search.
- The user can interact with a web interface, which will surface the knowledge stored as best practices reference architecture etc. using cognitive search.

- AI cognitive search-based knowledge base stored will be a joint initiative between Microsoft and Wipro.
- Experts pool will be a team of architects connected over Teams. This would be a combination of Wipro and Microsoft experts. This could be a virtual pool of experts.
- Teams will be used as the collaboration platform for developers, experts etc.
- Azure blob storage / SharePoint sites will be used to store the knowledge and the recommendation engine will continuously learn and suggest the right information.
- Cognitive workflows and power app applications will help enhance the interaction with the virtual CoE helping in reviews, assurance etc.

**Conclusion:** AI can play a huge role in democratizing developer experience. We have barely scratched the surface when it comes to pre-built automated AI models being leveraged to democratize developer experience.

**References**

1. <https://bit.ly/2R8IsC1>
2. <https://bit.ly/2I9QCah>
3. <https://bit.ly/2XdzpW4>
4. <https://bit.ly/2WBdvaO>

**Rekha Kodali,**

Head – Presales and Strategy  
Microsoft Practice,  
Wipro Limited.

Rekha's core competency, honed over 22 years of professional experience, includes enterprise architecture and Microsoft technologies. She has designed state of the art solutions based on a multitude of technologies and acquired various industry-recognized certifications.

**Md Tahir,**

Senior Consultant,  
Microsoft Practice,  
Wipro Limited.

Md Tahir with over 5 years of IT experience, has been integral in building solutions for large integrated deals involving various business application technologies, especially across the health domain.

**Acknowledgement:**

Special thanks to reviewer panel led by Aravind Ajad Yarra, Dr. Abhijit Shrikant Rajnekar, Srinivas Deshpande and core team members Anshika Agarwal, Divyanshu Jain and Sachin Chaudhary for implementation of the solution.



## **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**

