

Dazzling with Variety

TCS serves twelve major industry sectors, and multiple sub-sectors. We serve our clients in 46 countries. Our requirements demand variety. TCS R&I has many sources that seed explorations.

Apart from the long term research in foundational areas carried out by TCS Research, TCS draws in new technology ideas from its Co-Innovation Program (COIN) that works with academia (essay *Digital Citizen*), partner ecosystems (essay *Earth to Cloud*), emerging tech companies, venture funds and customers themselves. The company also encourages ideas from the grassroots with its Innovista contests and hackathons (essay *Building an Innovation Culture*). The entrepreneurship program invites associates who have disruptive ideas and allows them to work like a start-up within the company.

Driving Velocity

Too often a good invention languishes in the lab and loses its early mover advantage. The trick is to get it out of the lab to meet the business need quickly. We attempt to strike a balance in investment between innovation programs that have a time bound delivery schedule and those that need long term exploration. TCS R&I has put in a rigorous process to move inventions from the drawing board to delivery through a series of technological readiness reviews. We encourage teams to put forth a minimum viable product in a defined time period. A dedicated team incubates innovations that have market traction, scale these up for commercial deployment.

Periodic reviews with business units sharpen the focus of the offering, and facilitate business sponsorship.

Innovations that are relevant here and now, as extensions of current solutions or with currently mature technologies, that we term Horizon 1 innovation, are performed by technology offices within our business units. This scale out contextualizes innovation and enables speedy delivery.

The internal entrepreneurship program office vets ideas we receive from our large workforce, bets on the most promising ones and fast tracks them. The enterprise-wide hackathons that are conducted also produce MVPs that are evaluated for scale-up.

Generating Value

The most important function of the TCS Corporate R&I unit is to offer a continuous pipeline of new business opportunities. The technology readiness assessments, the incubation program, the co-innovation program create a stream of new offerings that impacts the company's business, the company's internal efficiencies or the company's social causes. Most of the essays in this volume are examples of inventions and innovations that have created value for the

company. Hundreds of customers have been consumers of TCS Innovation and have testified to its effectiveness.

The R&I Evangelize team is an effective connecting channel that brings business ideas into research for exploration, and takes the best of R&I to the market. It goes beyond a sales and marketing team (essay *Evangelizing Research and Innovation*) and enables creation of value for both research and business.

Creating a Vibrant Culture

Industrial research can never be confined to the ivory tower. It will have failed in part of its mission if it does not infuse creativity within the organization. In an organization that is as large as ours, with 400,000+ associates, we feel creativity can come from anywhere. The TCS Innovista 2021 Competition had 38600+ entries. Coming from different units in the organisation this shows a healthy growth in innovative thinking through the company. Each of these entries is filed by a 4-5 member team, who benefit from the mentoring, visibility, and the encouragement they receive from leadership teams.

Apart from events and contests, we have thoughtfully designed spaces that encourage design thinking, brainstorming, collaboration to infuse energy, and creativity to problem solving. TCS PACE™ program will launch several such events in different geographies TCS operates. TCS PACE™ Ports will be touchpoints for our customers and partners to experience and participate in TCS Innovation.

The Future

Early and continued investments in research, a method to pick the next technologies and a comprehensive innovation architecture keep TCS Research and Innovation optimistic about the future. We are looking at a fast changing landscape and a number of exciting options . At TCS 50, we hope to voyage on for another 50 years in cyberspace powering our customers to race ahead of competition, offering the best to their consumers.

[View](#)

K. Ananth Krishnan, EVP & CTO, TCS

Ananth directs Research and Innovation in TCS. Under his leadership, TCS has created a significant portfolio of patents, papers and other Intellectual Property delivering business value.

Ananth has served on several Governing Councils of Academia, Industry Advisory boards, and Government committees. He has been a regular invitee to the Board of TCS since 1999.

He was elected a Fellow of INAE in 2013. He was named a Distinguished Alumnus of IIT Delhi in 2009. He has been listed in Computerworld's Premier 100 IT Leaders (2007), and Infoworld's Top 25 CTOs (2007).

Ananth holds an M. Tech. degree in Computer Science and an M. Sc. in Physics from the Indian Institute of Technology, Delhi. He has a bachelor's degree in Physics from Fergusson College, Pune.

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