TCS Rapid Labs

Accelerating growth and transformation with emerging tech innovation

An ever-evolving business and technology landscape is driving an exponential increase in the pace of change across all industries and markets. Not only will emerging technologies such as Artificial Intelligence, DevOps, IoT and Advanced sensors, Immersive technologies, Blockchain, Robotics, 5G, and Quantum Computing reshape the future of enterprises and business, but will also undergo significant change themselves. Furthermore, they will lend themselves to create innovative, combinatorial solutions that shape new markets and expand existing ones. Hence, accelerated innovation is an imperative to prove the art of the possible early in the cycle. Fast-paced experimentation that allows for ideation, design of experiments, rapid prototyping to bring forth the functional value of an idea, and repeating experiments but with new insights and perspectives, will help realize an early feel of innovation to help you make important investment decisions.

Realizing innovation at this accelerated pace requires a combination of talent, creativity, problem-solving aptitude, and technological skills. At TCS, we have setup a global network of 30 Rapid Labs across our business groups and accounts to help you stay ahead of the curve. These labs are part of the TCS Pace™ Innovation Architecture that unifies the best of TCS' innovation assets, capabilities and practices to build meaningful and accelerated outcomes. The TCS Pace Innovation Architecture provides a structured framework for you to ideate better, work on creative solutions faster, and focus your efforts on real, purpose-driven business needs. The corporate-led Rapid Labs, which is a part of TCS Incubation, works in close collaboration with all other Labs to help you innovate rapidly.

TCS Rapid Labs

- Specializes in solving complex business problems

- Identifies growth and transformation opportunities for you through proven ideation enablers and our contextual knowledge

- Fuels your growth and transformation journey by converting your unique set of problems into an innovative solution in weeks, as opposed to months

- Uses a combinatorial approach involving serial innovators, proven processes, emerging technologies, maker spaces and an innovation ecosystem

- Offers a sandbox to demonstrate the value of your idea funnel through rapid POCs

- Converts POCs into MVPs in rapid iterations

What we do

- Infuse energy and fresh thinking in innovation

- Solve complex business problems by bringing together hyper-agile practices, design thinking techniques, and passionate innovators with combinatorial skills in design, business, creative problem-solving, and an in-depth knowledge of multiple technologies such as AI, Cognitive, Multi-modal experiences (robotics, AR), Quantum, etc.

- Fast-track innovation through proven and repeatable processes and by providing access to deep research and reusable components

- Reduce waste, risk of failure and excessive iterations through frugal innovation and through our innovation ecosystem and investments

This is how we do it

For each problem statement received, we understand the given problem from all aspects and arrive at possible solutions by drawing on our contextual knowledge based on past experiences and by applying the DICEE concept– Depth, Intelligence, Completeness, Elegance, and Emotion. Our methodology includes THINK, MAKE, EVALUATE, REPEAT phases in rapid iterations with various stages such as ideation, applied research, experience and design modelling, prototyping, accepting failures, MVPs and pilot deployment and scale-up.

- THINK: We connect with stakeholders to understand the need of the hour, analyze the current situation, and drill down the problem statement to scope out the PoC. We also conduct competitive and market analyses to identify white spaces.

- MAKE: This is where all the action begins as we deep dive into the problem statement to evaluate technology aspects and whether combinatorial technologies are the right approach to deliver maximum value to stakeholders. We carry out multiple design of experiments and experience modelling to explore and analyze all the technical, design and behavioral requirements

- EVALUATE: We assess all MVPs built in the make stage based on the applied research and studies. Acceptable MVPs are moved to the pilot deployment and scale-up stage. New insights and perspectives may be applied for retrospection of the MVP, for the subsequent phases or in case of failure.
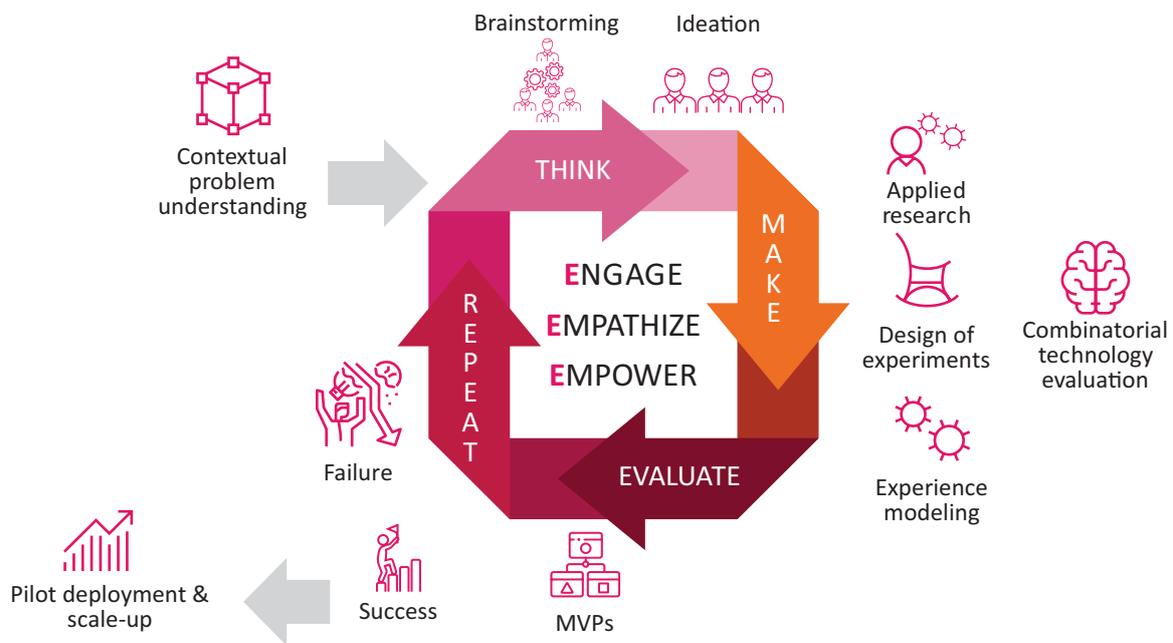
A diagrammatic representation of a Rapid Sprint (6/8-week cycles)

Our novel 3E model—Engage, Empathize and Empower—is designed to develop social and sustainable innovations and allows us to engage extensively with stakeholders, understand their problems, empathize, and empower them with our technology-driven solutions.

Our work

Here are a few examples of how we have ideated and rapidly solved complex problems for our customers.

Immersive Tech

- The Vikram Sarabhai Library at IIM Ahmedabad —among the top 50 business schools globally— launched a virtual library, providing students, professors, and visitors access to almost 200,000 books and 25,000 journals. Our solution included a virtual walk-through of the iconic library with a simulated walk up the stairs to a specific floor, reaching out to a book shelf, and browsing through the books on it, in addition to a speech-driven book search, reservation of titles, and notifications to pick up the book during a library visit

- Virtual Habilitation (VHAB) is a unique, cost-efficient solution, completely built by Rapid Labs, based on gesture, leap motion, and VR platforms. VHAB combines an immersive experience with gamification to build a personalized suite of limb movement exercises that improve locomotive functioning in children with neuromuscular disorders and autism. VHAB is a key enabler for CSR initiatives at Barclays

- A US-based auto manufacturer worked with us to build and roll out an AR/VR-based app to provide guided assistance to service technicians. The app included features to: 1) provide car/auto parts information by scanning the VIN/part number; 2) overlay repair information for specific car parts; 3) allow technicians to call an expert and seek advice if they are unable to repair

- A US-based label manufacturer partnered with us to develop an intelligent computer vision powered AR-based mobile application to analyze and classify tamper safe labels on food delivery packages

- An Australian electricity utilities customer collaborated with us to streamline the site assessment process before excavation by allowing field staff to visualize underground assets such as pipes and joins in a smartphone before actual excavation. The AR-based application leverages GIS data and 3D models of the underground assets to augment operations

Cognitive

- A US-based audio equipment manufacturer used the Cognitive Audio Denoiser built by us to eliminate intrusive ambient noises—such as door banging, or table-tapping —that are produced in environments like offices or auditoriums, from real-time audio feeds

- A US-based engine manufacturer partnered with us to improve the hand-off process for its filtration business unit quality engineers using our computer vision-based solution to detect hazard and quality related symbols from two million complex engineering drawings. Sustainable coding practices enabled customer recognition for TCS as a strategic vendor

- A US-based global media company reduced manual effort by 60% by partnering with us to automate the analysis of one million hand-written audio diaries per year to understand radio channel listenership by demographic and other qualitative information to arrive at a channel popularity score and pricing strategies

- A major UK telecommunications provider collaborated with us to develop a multilingual knowledge platform to provide advisory insights to its SMB customers. SMB customers now get online responses to their queries and next best offers through an advisory engine. This has significantly reduced contact centre call volumes and has increased product exposure

- A Germany-based global energy equipment company engaged us to develop a computer vision-based mobile app in just one week to read embossed part numbers from machines

- A UK-based water utilities customer partnered with us to automate the end-to-end inspection process through an intelligent sewer pipe inspection solution with configurable parallel data processing pipeline and decision intelligence

- A US-based fiberglass composites manufacturer worked with us to replace its manual warehouse inventory counting process using RFID with an automated process involving visual inspection of inventory identifiers

- A UK-based telco major recommended next-best offers and solutions to its server message block protocol customers through a knowledge bot built by us using a multilingual model and contextual knowledge

- A German-based industrial manufacturer required a solution to automate the conversion of 3D drawing to 2D as 3D files are not portable to web portals due to their large size. We automated the conversion process and completely eliminated manual effort

- A South Africa-based, technology-enabled learning and information solutions company, specializing in publishing academic and law-related literature, adopted an ML-based rules definition solution built by us for document auto-formatting before printing. The solution complemented the manual rule definition and made the entire process robust and scalable

- A large South Africa-based bank simplified and reduced its cost of operations through our AI- driven mailbox automation solution that raised service requests to address merchant queries and complaints

5G

- We built a scalable, low latency, multi model vision platform for use in a variety of scenarios at home, factories, and outdoors. The platform provides zero-touch provisioning with intuitive self-service for management of cameras, computers and so on. Business users can also select from a wide range of AI vision models that are continuously added and upgraded by us

The TCS advantage

- **Historical evidence**: Delivering future-proof, technology-led solutions for over 50 years

- **Fertile growth and transformation environment**: An established ecosystem of cutting-edge technology and IT infrastructure

- **Business perspective**: Helping businesses fast-track the innovative product development process with limited upfront investment

- **Consultative capabilities**: Not just infrastructure, but also consultative expertise to help a business move from ideation to rapid MVP development

- **Scalability**: Providing contextual mastery and domain expertise to scale the development process quickly and effectively once a business makes a viable innovation choice

About TCS Pace™ and TCS Pace Port™

TCS Pace ™ unifies the best of TCS' Innovation assets, capabilities & practices to build meaningful & accelerated outcomes.

TCS Pace Port™ is a global network of physical-digital Innovation Hubs that bring to life the TCS Pace™ philosophy of unifying the best of TCS Innovation with the ecosystem capabilities.

Building on belief

Contact

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