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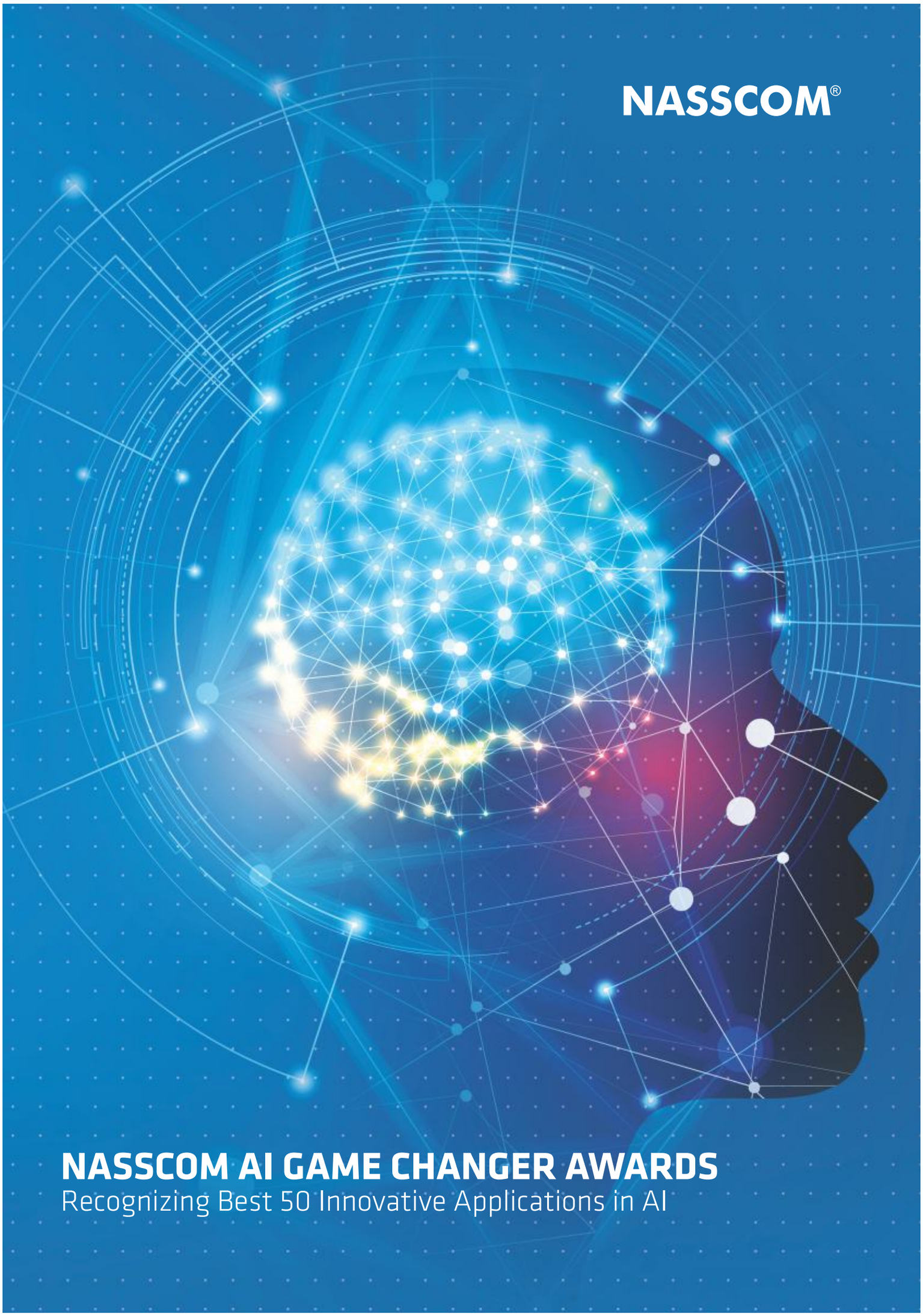


# NASSCOM AI GAME CHANGER AWARDS

Recognizing Best 50 Innovative Applications in AI

# AI DATA SCIENCE INDUSTRY IN INDIA WILL BE USD 16 BILLION BY 2025

India, today is ranked amongst top ten (10) Data Science (including Big Data & Analytics) ecosystem globally and has the potential to achieve leadership position and be in the top three (3) destination countries. It is expected that Data Science industry in India will be USD 16 billion by 2025, from the current USD 2 billion, i.e. a growth of 8x and the growth is likely to spur additional employment of ~200,000 analytics professionals in the country.

**$16 Billion by 2025**

**8x Growth**

**200,000 more to join workforce**

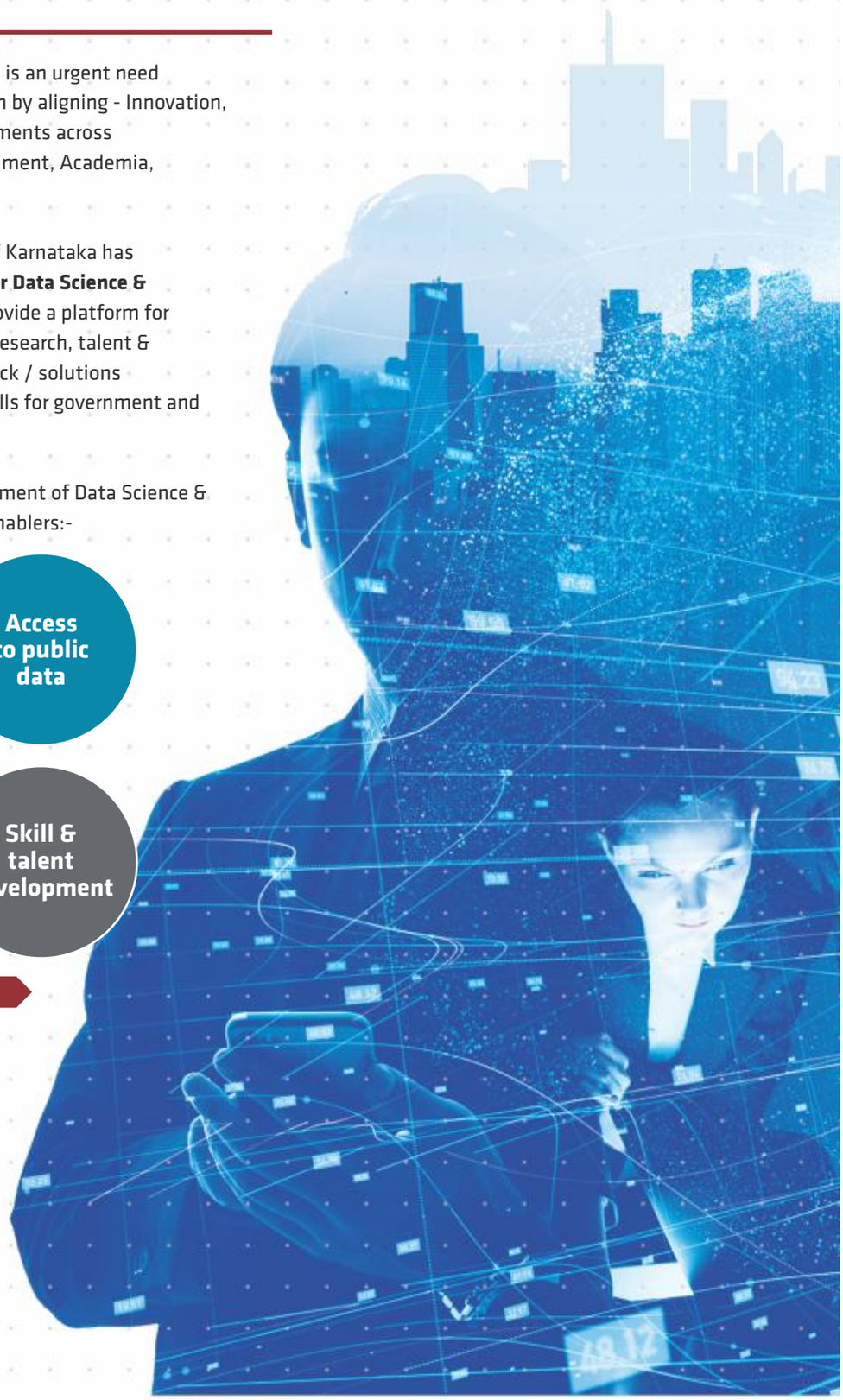
# HOW NASSCOM IS CATALYZING DATA SCIENCE & AI ECO-SYSTEM?

Considering the growth potential, there is an urgent need to develop the Data Sciences ecosystem by aligning - Innovation, Research, Talent, and Business requirements across stakeholders including Industry, Government, Academia, Innovators, and Buyer Enterprises.

NASSCOM in collaboration with Govt.of Karnataka has established the **Centre of Excellence for Data Science & Artificial Intelligence (CoE-DSAI)** to provide a platform for innovation, co-creation opportunities, research, talent & capacity development, and building stack / solutions everaging the latest technology and skills for government and user enterprises.

The CoE will be the catalyst for development of Data Science & AI ecosystem supported by following enablers:-

1. **Technology suite- cloud+ on premise**
2. **Access to public data**
3. **Industry connect**
4. **Skill & talent development**



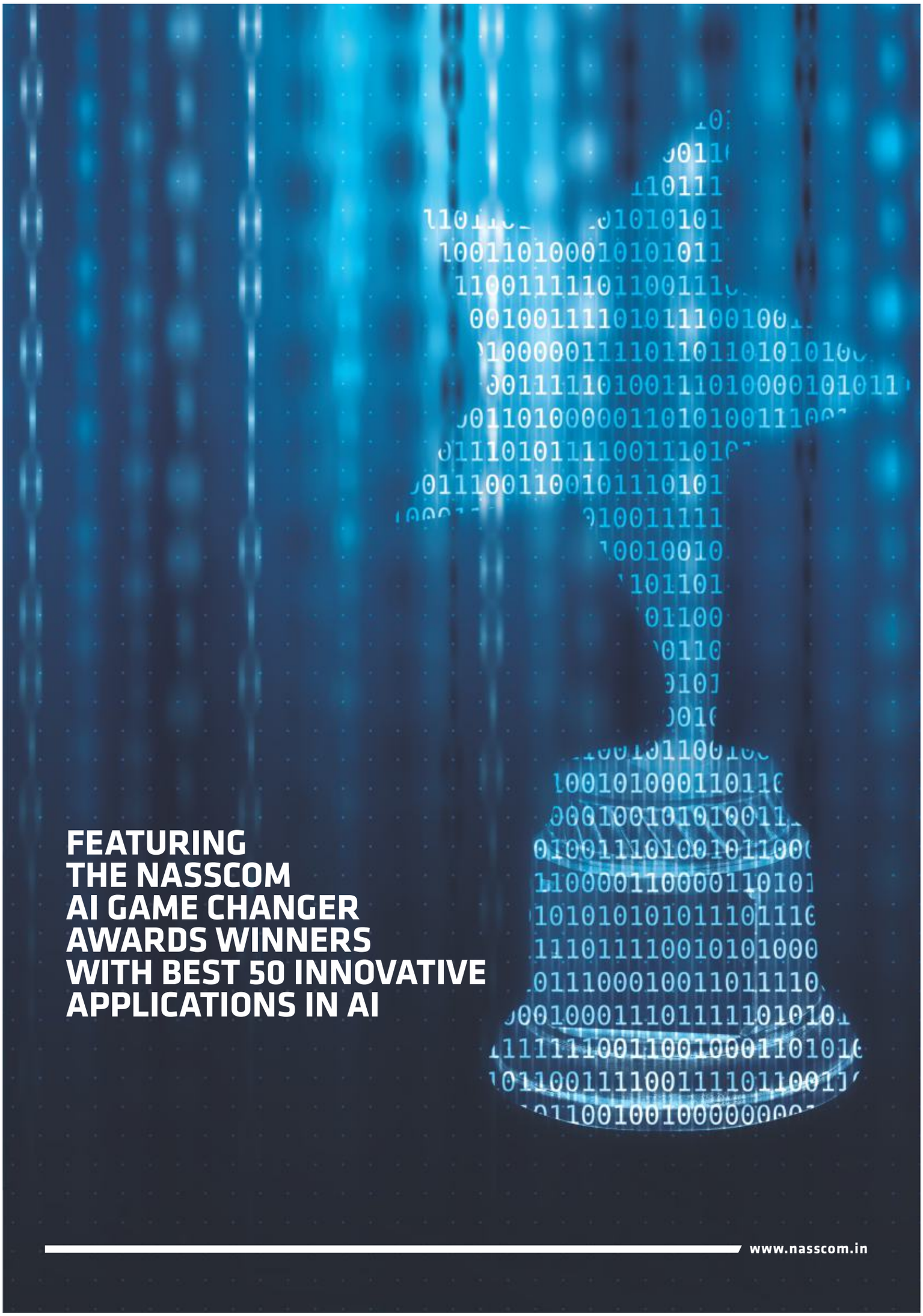
**CoE-DSAI to provide a platform for**

- Innovation
- Co-creation
- Research
- Talent & Capacity Development
- Building stack / solutions for govt. and user enterprises

# AI TECHNOLOGIES & TECHNIQUES CONTINUE TO GET BETTER EVERY DAY

Adoption of AI is accelerating across the globe and, in parallel, AI technologies & techniques continue to get better every day, thus creating a virtuous loop. AI solutions are augmenting human intelligence and improving our decision making, automating activities previously considered to be in the human realm, and adding significant value to our lives.

In regards to this NASSCOM CoE-DSAI launched the **"NASSCOM AI GAME CHANGER AWARDS"** to recognize, showcase & publish the most innovative, high impact and high-tech AI solutions that organizations have delivered internally or to their clients.



# FEATURING THE NASSCOM AI GAME CHANGER AWARDS WINNERS WITH BEST 50 INNOVATIVE APPLICATIONS IN AI

# COMPUTER VISION

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| | |
|---|---|
| Asquared IoT | Real time quality monitoring is a big issue and current model has several limitations. Equilips 4.0 from Asquared IoT solves this critical problem for manufacturing industry, by providing a novel product for real-time quality monitoring of welding process. |
| BRIDGEi2i Analytics Solutions | In casualty insurance sector manual inspection of roof-tops to assess damages for insurance claims are cost-prohibitive. Bridgei2i provided automated identification of defect type, damage counts and severity using drone images.<br>The algorithm implemented achieved an accuracy measure higher than 95%. |
| Constems AI | AI based inspection system to remove the subjectivity of physical quality standard check process for selecting the right product for customers.<br>This led to easy inspection process and reduced man power involvement during the manufacturing process. |
| Dataweave | AI based models which detects possible counterfeits by capturing minute discrepancies and differences in the catalog images and text to identify unauthorized sellers on e-commerce websites. Led to identifying close to 45% counterfeit products. |
| Drive Analytics | Used computer vision technique for taking broadcast feed of sporting events and running video analytics on brand presence and mining various statistics to arrive at Media Exposure Value. The technique lead to reduction in the sponsor's spend on generating return on investment report. |
| Fractal Analytics | To analyze image data to quantify the damage on vehicles from images of damaged vehicles, a convolutional neural networks based image classification, segmentation techniques is created that provides damage estimates and thus reduce the time and effort to assess damage. |
| HCL | To handle the challenge of extracting language based objects, HCL created in-house product EXACTO which is patented solution for HCL. EXACTO is an AI/ML based information extraction tool designed specifically for classifying and reading hand-written and typed fax/image based documents whether captured by standard scanner or mobile device. The tool generated a conservative saving of $1.5 Mn by reduction of human efforts. |

## Intelligence Node

Since text information is not sufficient to segment and analyze product catalogs so Intelligence Node created a convolution neural network based solution to handle this problem. This solution saw an improvement in operational efficiencies by 20%.

## Intello Labs

Manual inspection of food commodities is subjective and leads to various issues. Intello Labs and KCPMC worked together to digitize the current process using images and AI. The manual inspection as well as sorting is replaced by a simple image based classification. The accuracy level of solution is 90% as compared to 70% accuracy of manual results.

## Kernel Insights Technology

In the online shopping industry, apparel product price comparison and discovery sites are not available like booking.com etc. Kernel Insights provided a solution that involves aggregating data across data sources from X e-commerce sites. Using the product, company saw an 270% increase in click-through rate for their apparel matches.

## L&T Technology Services

Oil & Gas sector has large amount of legacy data in the form of millions of hard copies which needs digitization. L&T has developed artificial intelligence based cognitive solution which can not only extract metadata from scanned documents but also autocorrect it based on a self-learning system that draws rules from human feedback. Customer could now use legacy data for making better informed decisions.

## Netradyne

To reduce road accident fatalities due to driver inattention, Netradyne created deep learning based computer vision algorithms to identify at-risk driving. Innovative Driveri™ platform in India, provides a real time assistance to the drivers and also notifies the fleet managers about an unsafe driving situation to help address before it becomes a severe event. One of the partners using technology observed significant improvement in driver behavior (50% reduction in hard-braking alerts).

**Praktice.ai**

In the healthcare sector, converting leads to patients visiting the website is a task and requires high operational cost of call centers. Praktice.ai created a solution that was able to interact, book/ cancel/ re-schedule appointments, delivers care instructions post the consultation, re-direct to proper specialists. It led to large saving of operational cost for the hospital.

**Qure.ai**

qER, the solution from Qure.ai, uses deep learning to prioritize head CT scans by detecting emergency findings. Automated head CT scan screening is valuable for queue management in a busy trauma care setting, and facilitates decision-making in remote locations without an immediate radiologist availability. It led to reduction in median time to diagnosis from 512 mins. to 19 mins..

**Staqu**

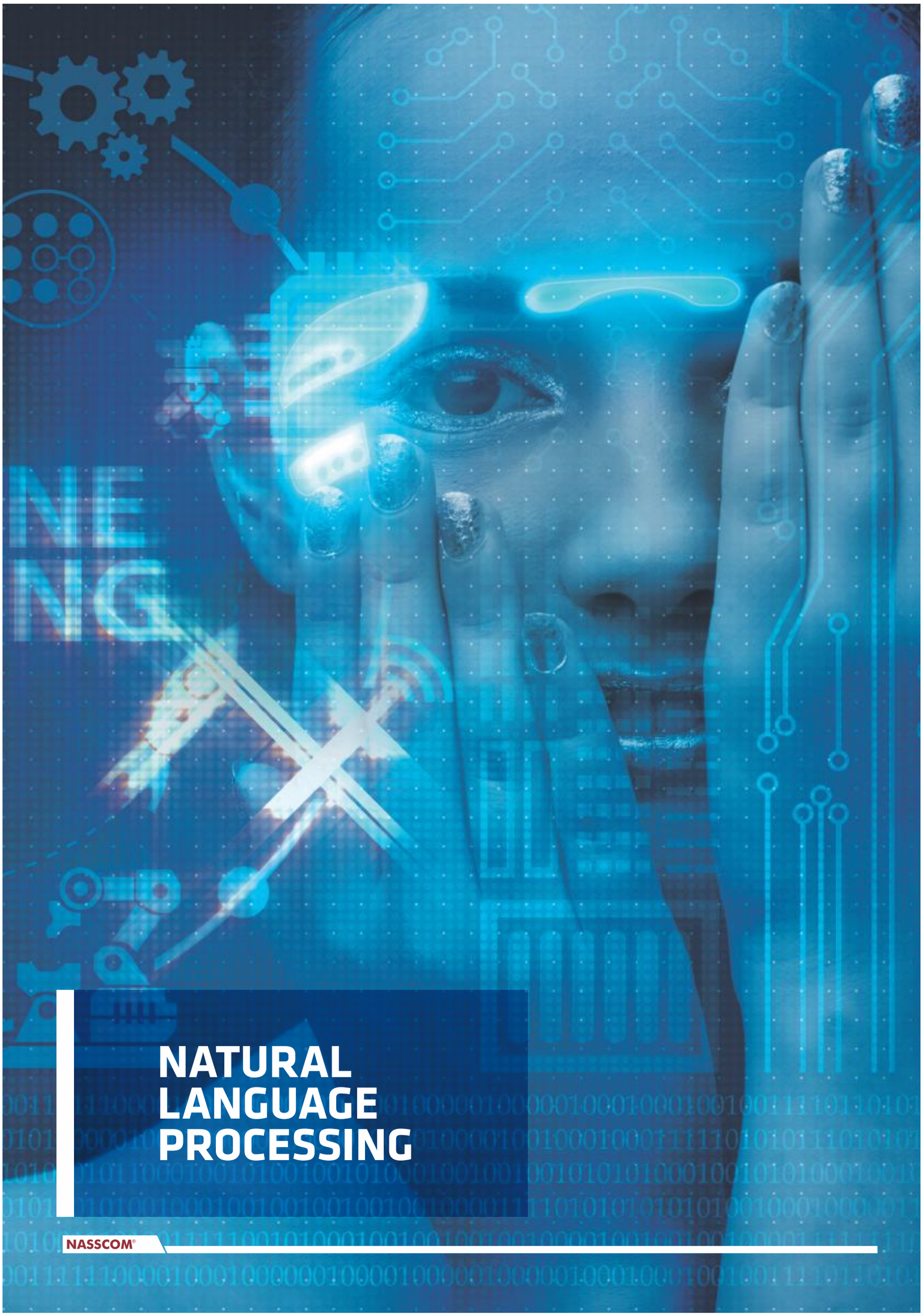
Staqu's ABHED a predictive & smart policing solution uses machine vision & deep learning techniques to identify criminals/suspects in real time while routine checking, examining CCTV footage etc. making policing proactive rather than reactive. This technology is currently live with three state police forces: Rajasthan, Punjab and Uttarakhand, helping bust 8 terrorist modules and apprehending 400+ gangsters.

**Uncanny Vision**

Non standardization of number plates creates issues like traffic management, vehicle analytics & security. Uncanny vision using machine vision created automatic number plate solution which sends the number plate information over a secure network interface to the Toll Management Software. This significantly improved ability to monitor and audit flow of vehicles, using data for parking automation, to track vehicle and crime analysis etc..

**WNS**

In the insurance sector, claims processing of rooftop damages caused by hail storms and other weather-related incidents is a challenging task. So, WNS used drone captured images to create two classifications– damaged and undamaged rooftops and used both the classical method (SVM) and deep learning (Faster RNN) to classify the images which reduce the effort in assessing the validity of claims, identify risk factors and automate claims estimation reporting. It resulted in prediction accuracy of 95% leading to elimination of manual effort.



# NATURAL LANGUAGE PROCESSING

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## Fidelity

To manage the increasing corporate governance issues, Fidelity implemented Natural Language Processing (NLP) to automate manual effort of processing large information about investible companies and professionals. This leads to handling large amount of data which was not possible earlier.

## GE Digital

Thousands of engineering (ER) cases per month are raised in power generation capacity which has high turnaround time and causing lot of prolonged down time of plant equipment. A Platform developed is "**BOLT™ – A Digital Service Engineer**" that helps in resolution of repetitive engineering cases by leveraging Artificial Intelligence (AI), Machine Learning (ML), Deep Learning & Robotics Process Automation (RPA) tools. It has led to ~95% reduction in turnaround time of engineering cases resolution for the repetitive cases.

## Light Information Systems

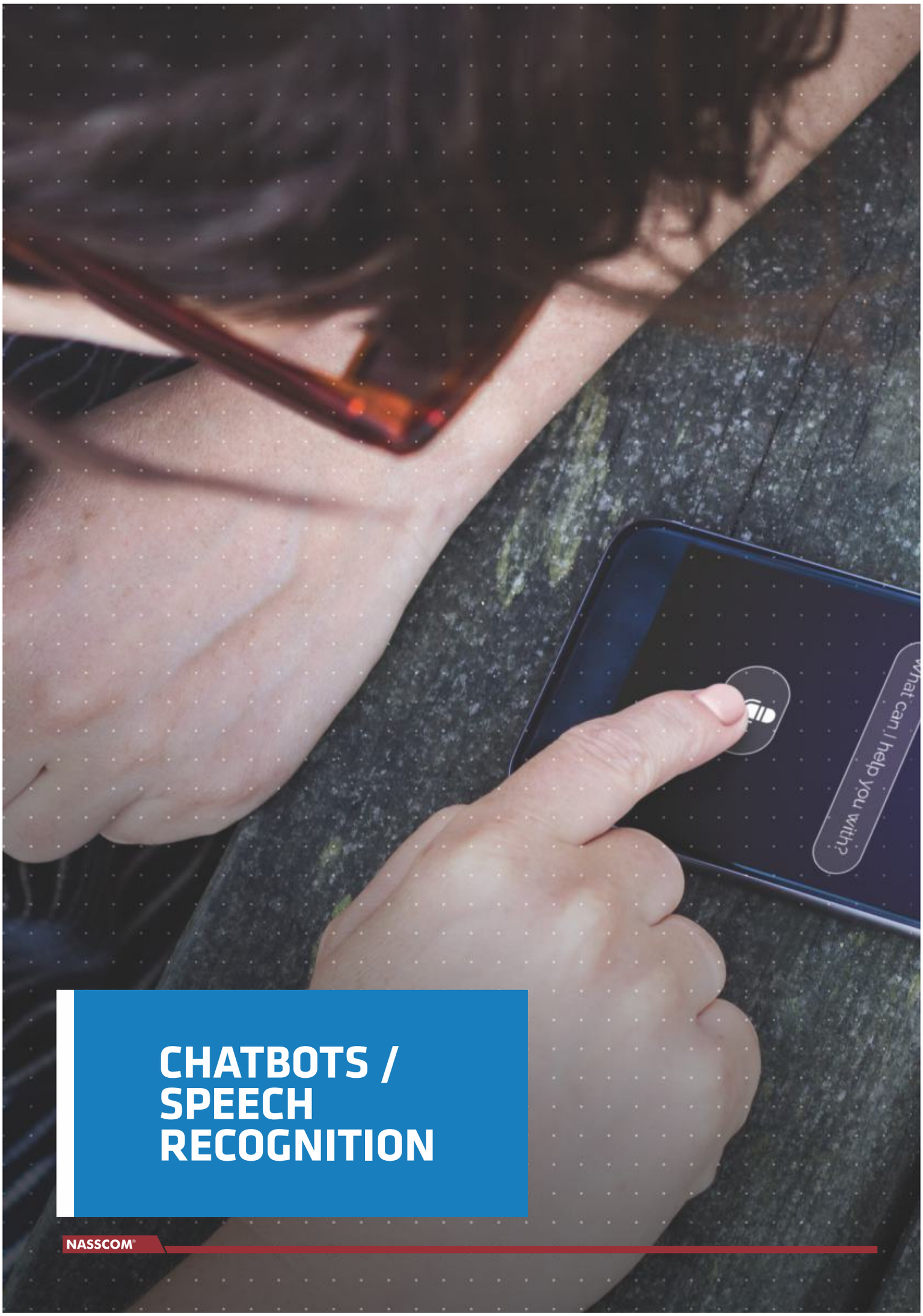
For sales growth, effective data driven sales pitches requires large team of analysts which is not scalable. So Light Information Systems created a NLP based system that generates report and product heatmap on any company under a minute.

## Locus

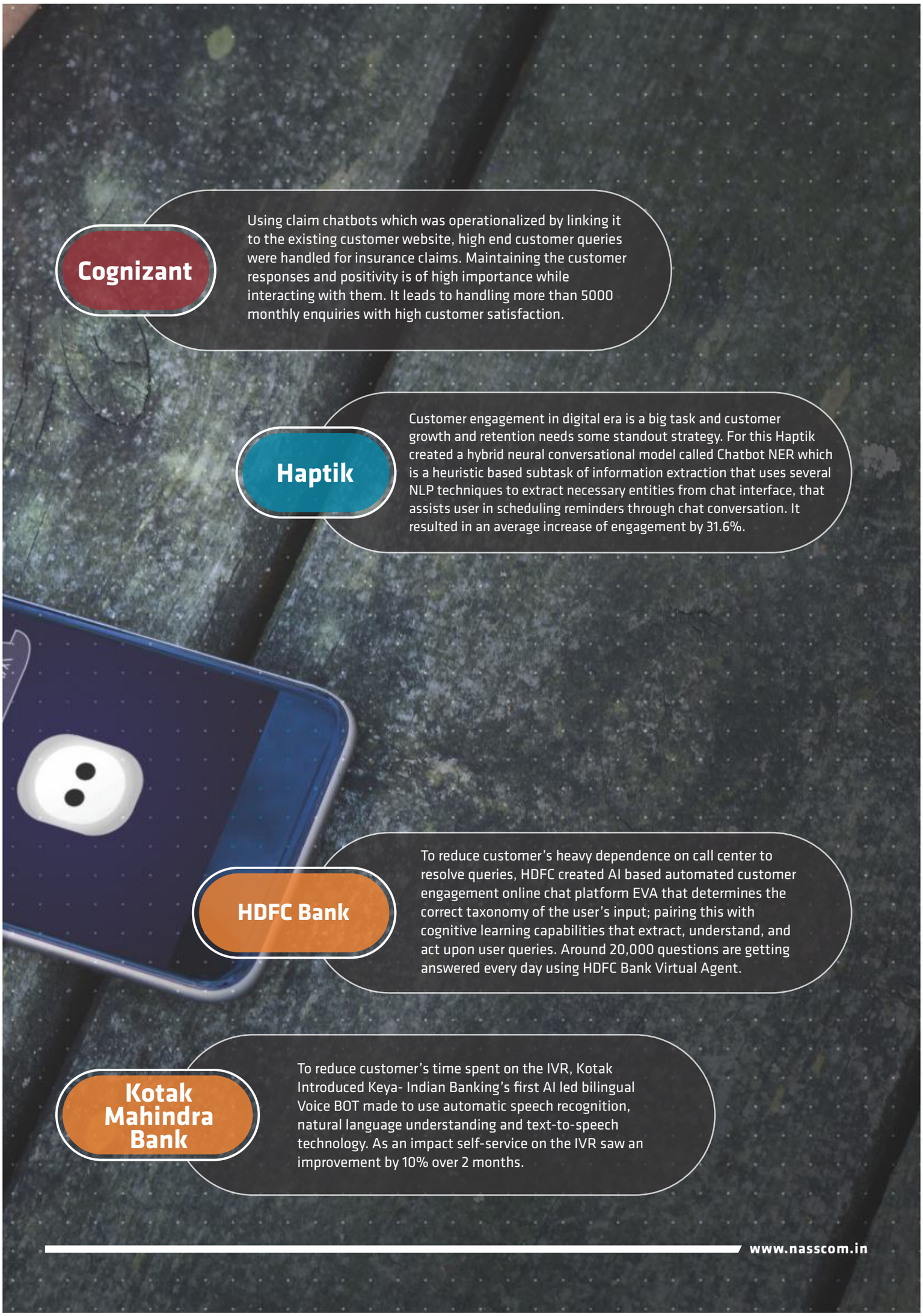
Manual shipment processing has high error rate, processing time and cost, so Locus created a NLP based Geocoding technique to code addresses corresponding to route number. High route mapping with accuracy of 95%-97% was observed under this process.

## Societe Generale

Banking sector needs a solution that provides customer a more natural ways (read, natural to human actors) of interacting with information systems. To handle this Societe Generale created an NLP based conversational agent based solution.




# CHATBOTS / SPEECH RECOGNITION



**Cognizant**

Using claim chatbots which was operationalized by linking it to the existing customer website, high end customer queries were handled for insurance claims. Maintaining the customer responses and positivity is of high importance while interacting with them. It leads to handling more than 5000 monthly enquiries with high customer satisfaction.

**Haptik**

Customer engagement in digital era is a big task and customer growth and retention needs some standout strategy. For this Haptik created a hybrid neural conversational model called Chatbot NER which is a heuristic based subtask of information extraction that uses several NLP techniques to extract necessary entities from chat interface, that assists user in scheduling reminders through chat conversation. It resulted in an average increase of engagement by 31.6%.

**HDFC Bank**

To reduce customer's heavy dependence on call center to resolve queries, HDFC created AI based automated customer engagement online chat platform EVA that determines the correct taxonomy of the user's input; pairing this with cognitive learning capabilities that extract, understand, and act upon user queries. Around 20,000 questions are getting answered every day using HDFC Bank Virtual Agent.

**Kotak Mahindra Bank**

To reduce customer's time spent on the IVR, Kotak Introduced Keya- Indian Banking's first AI led bilingual Voice BOT made to use automatic speech recognition, natural language understanding and text-to-speech technology. As an impact self-service on the IVR saw an improvement by 10% over 2 months.

## Senseforth

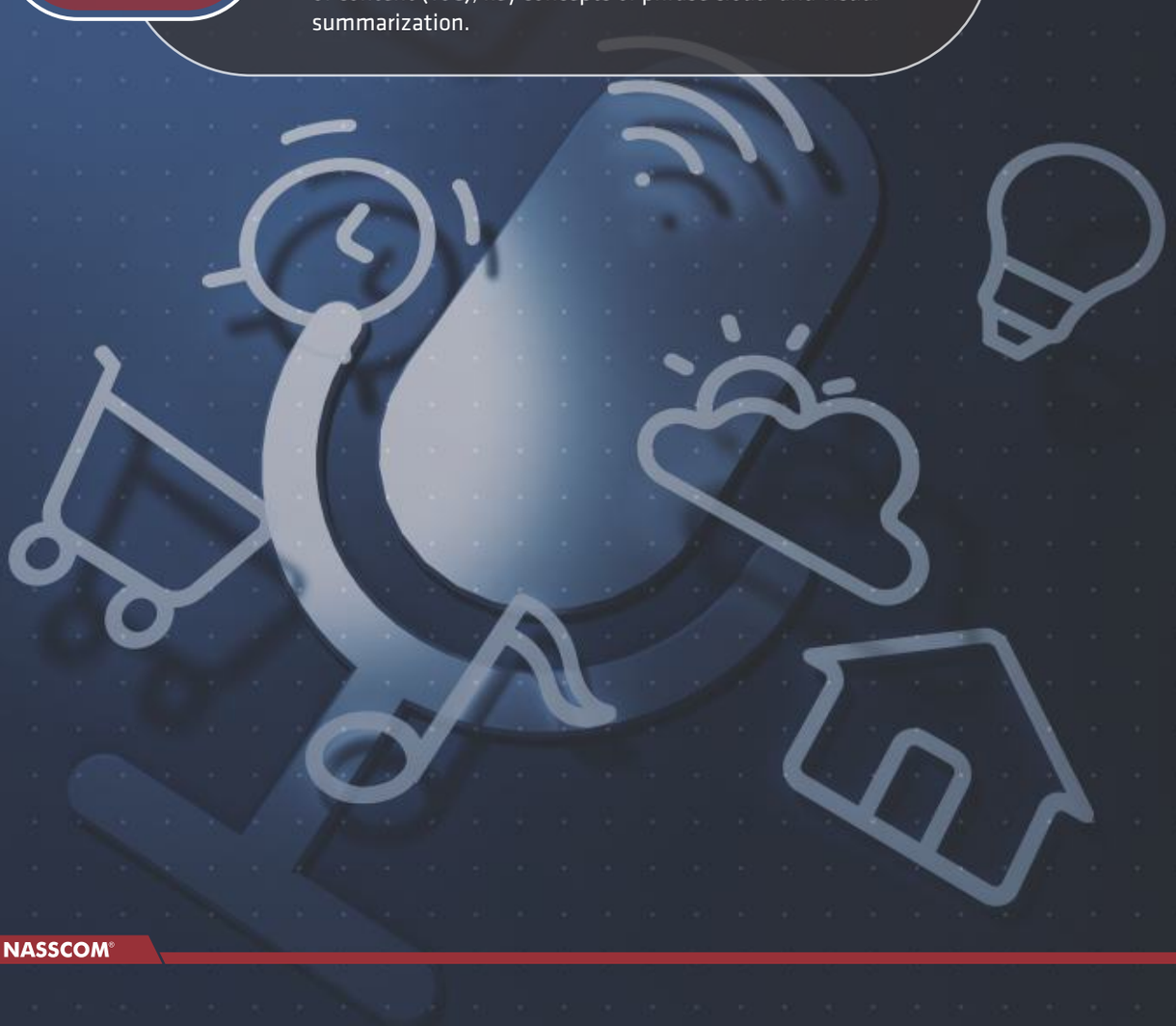
In growing banking industry, scaling customer point is a big task and require automation. Senseforth built chatbot that was trained to handle customer queries about products and services based on large amount of domain and bank specific data. This chatbot has already processed over 6 million customer queries in 9 months.

## Uniphore

Uniphore created an Automated Speech Recognition (ASR) engine for language processing which converts speech to text specific to Indian languages. This engine is trained to understand accents, pronunciations and vocabulary. This has led to significant improvement in overall customer experience and brand loyalty for the enterprises at the same time building on speech analytics as a core.

## Videoken

Videos that contains large amount of info and are under utilized. Videoken created an AI based video processing pipeline which inputs video content as an input and analyzes it to produce several deep indexes such as table of content (ToC), key concepts or phrase cloud and visual summarization.



# IoT

**Cardiotrack**

Timely diagnosis of patient's heart health condition is critical. Cardiotrack, a combination of IoT (network connected heart health diagnostics) and AI (cloud-based ECG interpretation) is deployed at the primary care facilities. The entire process of ECG scanning and interpretation is completed in less than 5 minutes.

**Samsung**

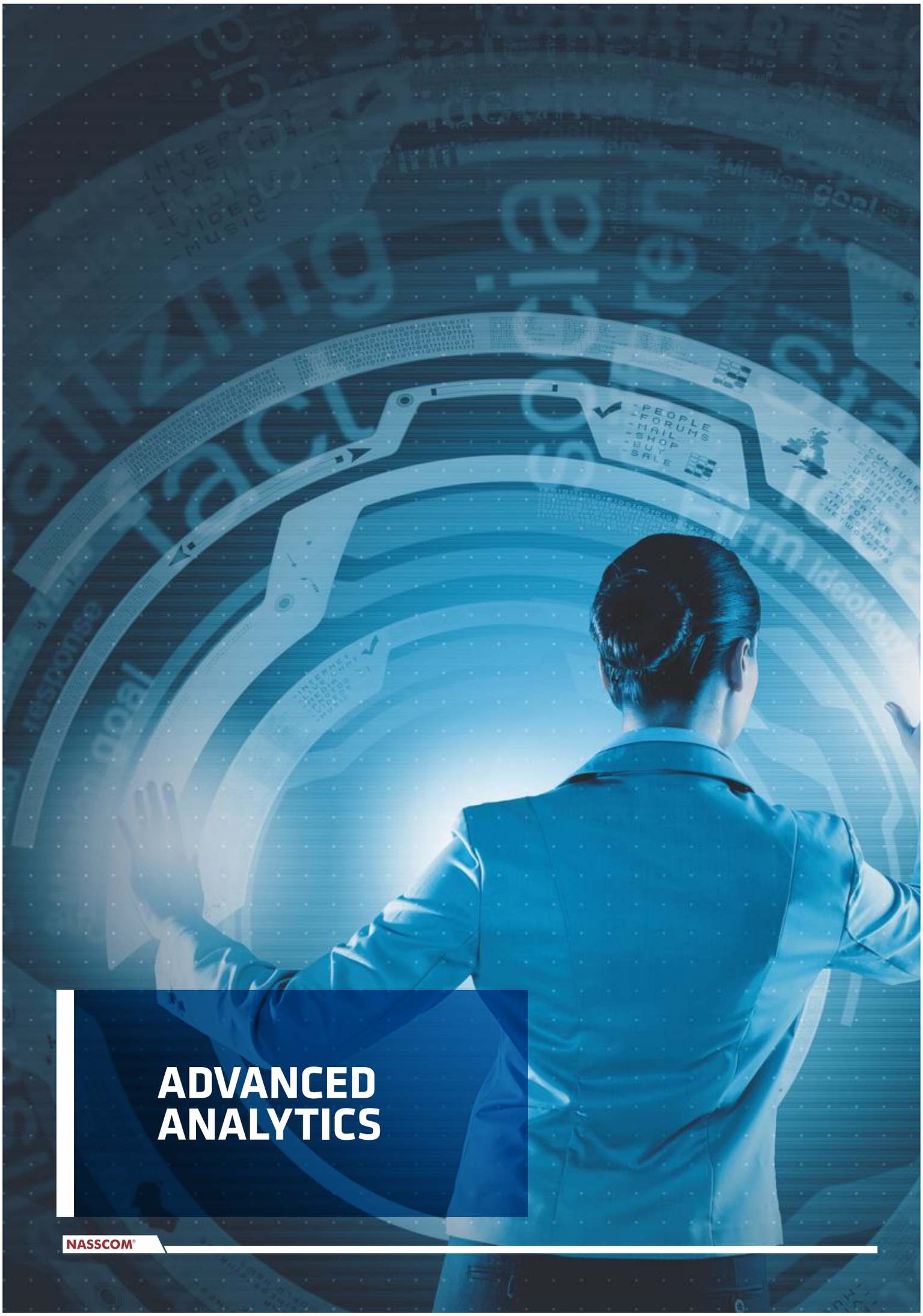
To measure an individual's blood pressure from their photoplethysmography (PPG) signal, Samsung used heart rate PPG sensors present on smartphones, making it highly convenient for users to measure their blood pressure on the go.

**Tata Elxsi**

In the semi conductor industry, accommodating high computational Artificial Intelligence capabilities on smaller form factor devices is a challenge. To tackle this, Tata Elxsi created a way to convert deep neural network model into a light weight platform that resulted in high increase of revenue for the firm.

**Tricog Health**

Reading Electrocardiograms (ECGs) required skills and experience which is an issue in developing countries. Tricog Health created a solution, a virtual cardiology, which connected Tricog IoT connector to the web enabled ECG machine which transmits the ECG data to the Tricog ECG Cloud, where proprietary algorithms interpret the data and return the ECG analysis. Since 2015, Tricog has analyzed ECGs for close to a million patients.




# ADVANCED ANALYTICS

## Axis Bank

Fraud detection in the banking sector by leveraging unstructured data and similarity analysis based AI techniques for checking transaction of customers and filling suspicious transaction. Resulted in 50% increment of trigger reviews with critical nature and reduction of frauds.

## Deloitte Consulting

AI / ML based solution to reduce recall and quality issues in the automobile manufacturing process. The solution created for the quality investigation team gets an alert based on risk profile leading to high quality product and realized annualized benefits of USD 8 million in the first year.

## Flutura

Flutura created an analytics & AI based dynamic operating procedure to control product quality in manufacturing plants incurring high loss due to low quality and customer rejection. The product achieved 95% accuracy in prediction of quality of finished goods during the manufacturing process.

## IBM

Deep learning and AI product which detects quality issues in advance and also predict major faults in quality and the operations of an automobile manufacturing facility. The AI technique also led to overtime cost savings of $5-6 per hour.

## Latentview Analytics

**SMART INSIGHTS,** a scalable and self-service platform for analytics on connected vehicles to reduce warranty claims. The solution understands vehicle usage patterns and test various product related hypotheses based on real-time data leading to a 35% cost savings in the warranty claims.

## McAfee

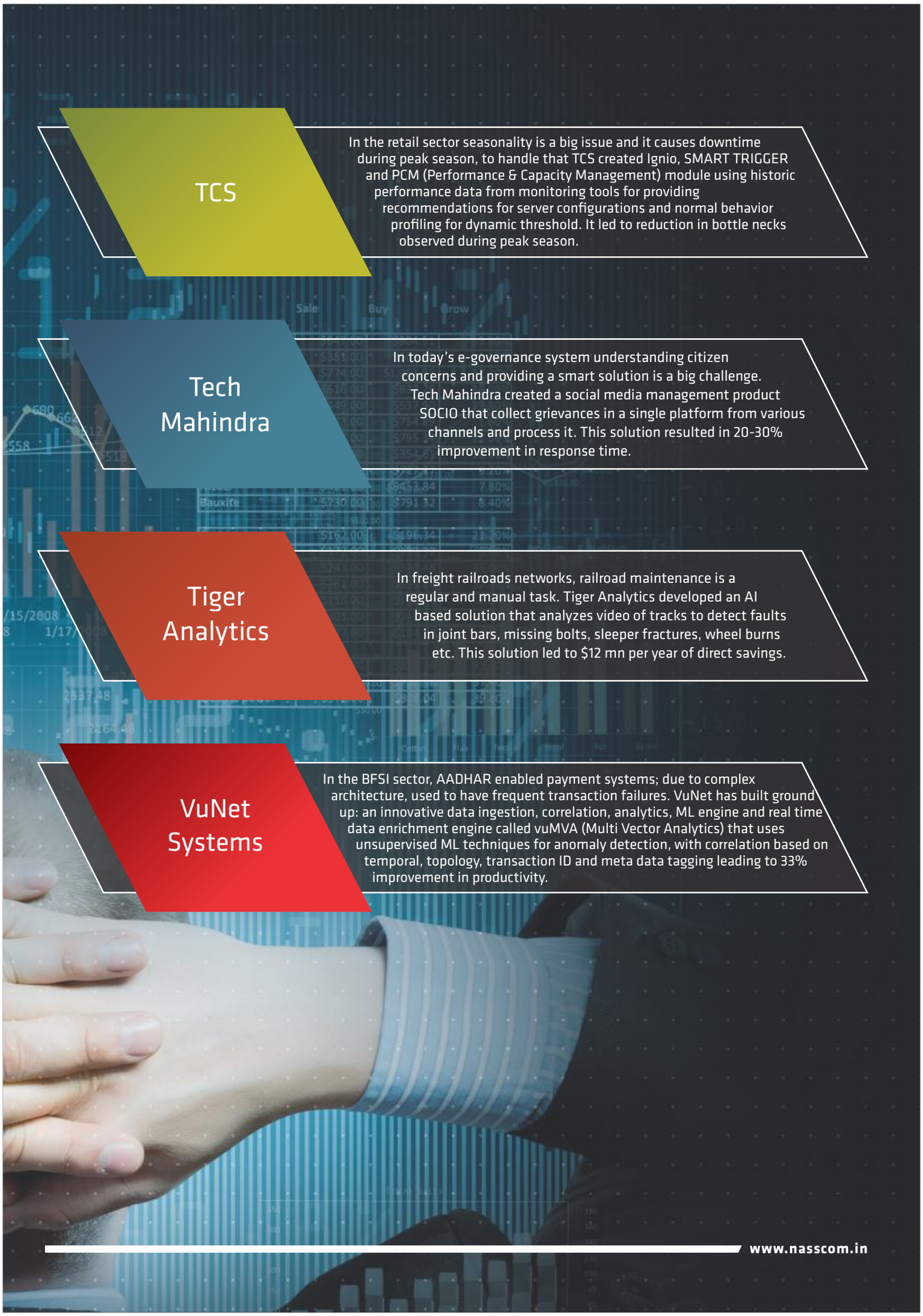
McAfee created state-of-the-art machine learning techniques to identify malicious code based on both an in-depth assessment of it's static and dynamic behavioral analysis without signatures to provide best protection from increasing breaches in cyber security area. The solution improved detection rates up to 30% from legacy based DAT/signatures.

## Nokia

To predict ways to address network issues and help operations team make faster decisions, Nokia created predictive operation analytics solution that analyses network KPIs, Counters, Alarms, Special Events, Site Category to find patterns of KPI degradation/non-degradation which enables system to predict degradation. It led to increase in network availability by 10%.

## Swiss Re

Increasing flight delays causes various unclear insurance coverage whose claims are difficult to settle. Swiss Re developed machine learning model using the flight and weather data to forecast with the highest accuracy; the propensity of delays of any flight in the future. This solution is providing the delay prediction on close to 20,000 routes.



## TCS

In the retail sector seasonality is a big issue and it causes downtime during peak season, to handle that TCS created Ignio, SMART TRIGGER and PCM (Performance & Capacity Management) module using historic performance data from monitoring tools for providing recommendations for server configurations and normal behavior profiling for dynamic threshold. It led to reduction in bottle necks observed during peak season.

## Tech Mahindra

In today's e-governance system understanding citizen concerns and providing a smart solution is a big challenge. Tech Mahindra created a social media management product SOCIO that collect grievances in a single platform from various channels and process it. This solution resulted in 20-30% improvement in response time.

## Tiger Analytics

In freight railroads networks, railroad maintenance is a regular and manual task. Tiger Analytics developed an AI based solution that analyzes video of tracks to detect faults in joint bars, missing bolts, sleeper fractures, wheel burns etc. This solution led to $12 mn per year of direct savings.

## VuNet Systems

In the BFSI sector, AADHAR enabled payment systems; due to complex architecture, used to have frequent transaction failures. VuNet has built ground up: an innovative data ingestion, correlation, analytics, ML engine and real time data enrichment engine called vuMVA (Multi Vector Analytics) that uses unsupervised ML techniques for anomaly detection, with correlation based on temporal, topology, transaction ID and meta data tagging leading to 33% improvement in productivity.

# ROBOTIC PROCESS AUTOMATION

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## Arya.ai

VEGA, an end to end platform to simplify complex AI processes enabling developers and enterprises to focus on core product features and build complex neural networks. Developed AI techniques to handle large claim process for Health Insurer, reducing claim processing time from 48 hours to less than 0.4 seconds and reduce revenue leakage.

## Capgemini

IKON, a sophisticated and fully integrated Artificial Intelligence solution predicts incidents based on pattern analysis of past data to handle high customer dissatisfaction due to unresolved customer service requests. Achieved reduction in incident cycle time by almost 60%.

## Infosys

Infosys Nia analyses contracts in a bio-inspired design which uses a Deep Learning architecture at a fundamental level enabling it to read contracts the way humans would, keeping its context and semantics intact. The system converts natural language into a computable format to maintain semantics and context.

## Marlabs

'mAdvisor', an AI & Cognitive Computing platform automates the traditional process of equity research analysis by quickly identifying stocks with high probability of excellent returns. Analyzes multitude of data sources (financial reports, databases, PDF reports, external equity analyses, etc.) to determine the likelihood of delivering high returns and thus reducing the analyst's time to build an investment case by 40% as well as identifying stocks which provides better returns.

## SetuServ Informatics

Decision making in selection of players based on scout reports and psychographic segments of each player is a complex process. SetuServ created an AI solution that mines the attributes that can predict and explain a player's performance and prioritize the player that can be hired into the team based on the scout report, analyzing the report in near real-time, and the player's performance.

# JURY SPECIAL MENTION AWARD

Flutura
Actions! Not just Insights

SAMSUNG

IBM

qure.ai

VideoKen

haptik™

HDFC BANK
We understand your world

STAQU
Perceiving the future

latentview
Actionable Insights • Accurate Decision

Infosys®


**For more details you can check**
**NASSCOM whitepaper titled "AI Primer 2018"**
**available for download at**
**www.community.nasscom.in or www.nasscom.in/publications**

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