Reboot Happiness

Remove as much friction as possible to deliver Digital Happiness; "*Automation First* "

"

Automation did not have to destroy jobs but "can be the ally of our prosperity if we will just look ahead."...*!*
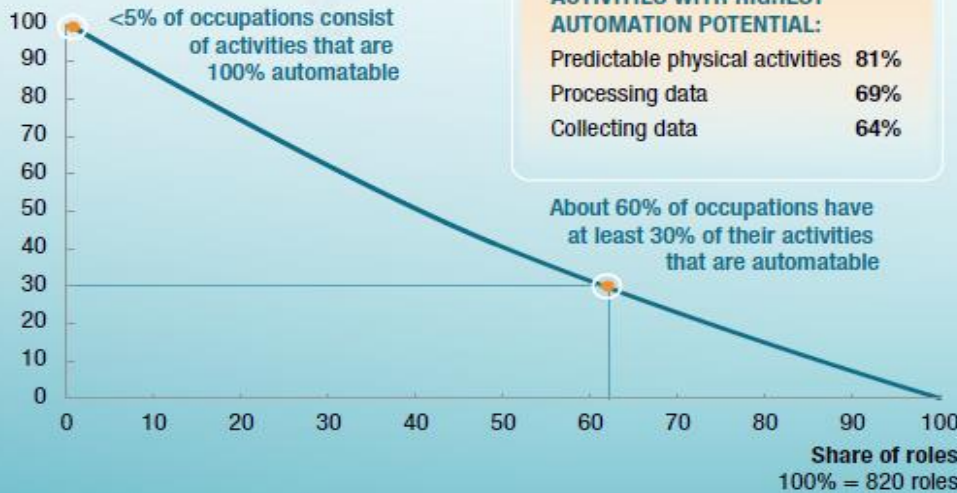
US President
Lyndon B Johnson

"

A Future that works

A Shifting Paradigm of Business

Business Organizations Today Confronts A New Marketplace and A New Consumer

Diverse Technology Platforms to Certify

Digital Revolution & Zero-Touch Automation

Customer and Employee friendly

Newer Business Opportunities

Rapid Technology Evolution To Cope With Changing Market Dynamics

Transformation

Automate **30%** of repetitive, mundane and rule based tasks more quickly, accurately and tirelessly

Business Aligned

Up to **20%** improvement in Quality through early engagement of Business & multi-dimensional testing

++ Efficiency

2 – 3X boost in efficiency of E2E business process validations and time-to-market through zero-touch execution

Market Potential

$2.9 BN market potential by 2021 for Robotic Process Automation as per Forrester, Feb 2017

Intelligent

Up to **30%** improvement in effectiveness by moving from 'doing' machines to 'thinking-learning-adapting' smart machines

Forrester, Gartner Research Reports

Automation will change everything – how we work, how we live, how we communicate

Delivering Digital Happiness

Prevailing Friction points

1 **New Joiner ON-boarding and common questions**
- Take months for the new joiner to understand the system in absence of common medium to help answer queries on services and needs

2 **Your roof leaks and you need to get an estimate for repair**
- The online quote request has technical questions you can't answer and over 20 "required" fields to fill out. Frustrated, you call someone else.

3 **Integrated Plant Maintenance and Employee Health & Safety**
- You have robust ERP system managing Plant Maintenance and Health Safety which do not talk to each other or predict future breakdowns

**Identifying the barriers that create friction is key...!**

Automation empowering the change

Human Attributes

- Independence
- Positive Emotions
- Engagement
- Relationships
- Compassion
- Meaning
- Achievements

How Automation delivers Digital Happiness ?

- **Envision:** Helping with the change how Companies Interact and transact with consumers and Employees.
  ex: Robot-Era proving care in nursing homes

- **Design:** Go beyond "Digital Obsession" where context, relevance, humanity, simplicity come together
  ex: FitBit's AI to keep humanity back on track

- **Quantify:** Measuring the Happiness beyond daily transactions…!
  ex: Cognitive APIs, emotion recognition, and sentiment analysis

David and Nicki's Scorecard
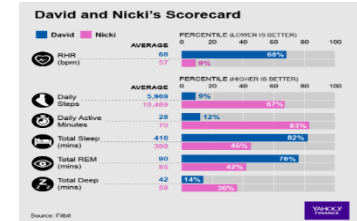
MEASURING DIGITAL HAPPINESS
ex. Buyer Shopping Habits
Enterprise Metrics for the Happiness

Sales KPI	CX Score	Digital Operations
• Sales Revenue	• CX Emotion	• Time to Market
- 10 % increase	• CX Effort	• Time to Implement
• Digital Opportunities	• Customer Retention	• Implementation Cost
- 5/10 visitors		
• Anonymous Visitors		
- 20 % matched		

With Automation Digital Technologies can enhance happiness …!

Frictionless Automation..

1 Automation First

ACT:
Service

TALK:
Interact

THINK:
Analyze

WATCH:
Monitor

REMEMBER:
Knowledge
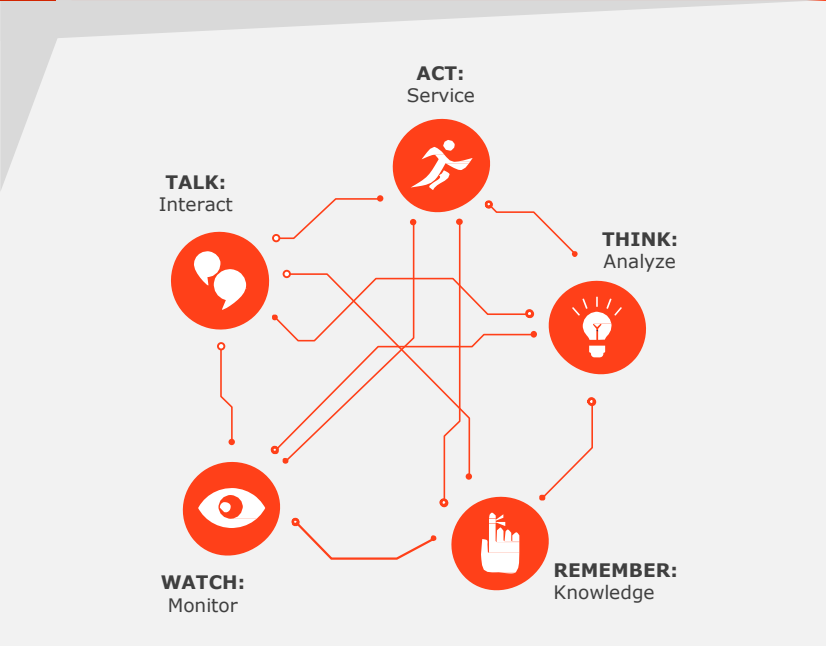
AUTOMATION DRIVE *Suite*
The 5 Senses of IA

2 Technology Arbitrage

Service Tools

User Interaction Tools

Analytics Tool

Monitor Tools

KM Tools
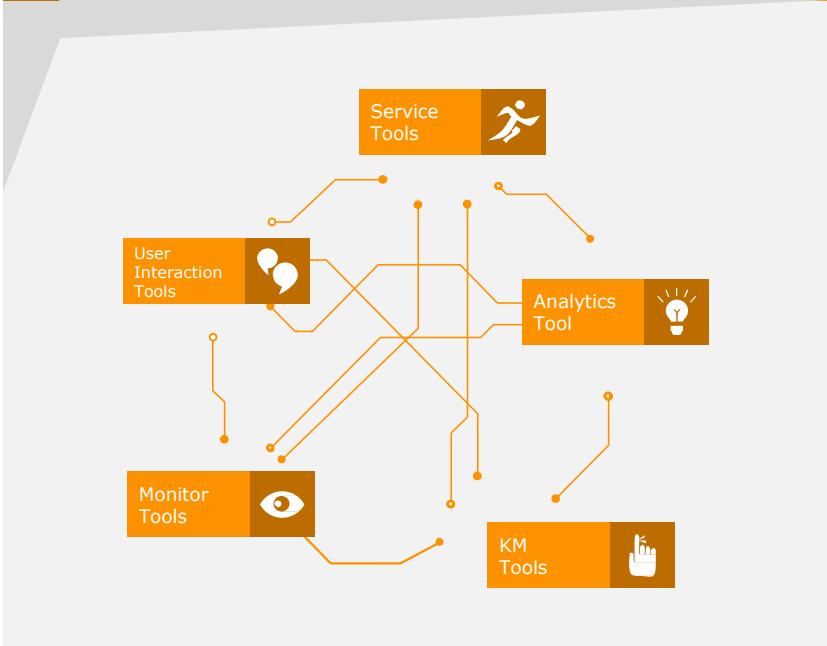
AUTOMATION *Partner Eco-system*
AUTOMATION *Store*

Environment Conservation and detect Pipeline Defects

Defect classification results

Legend: ■ Recall ■ Specificity

Chart categories: CV, InceptionV3 - 172+, InceptionV3 - 0+, Custom-V1
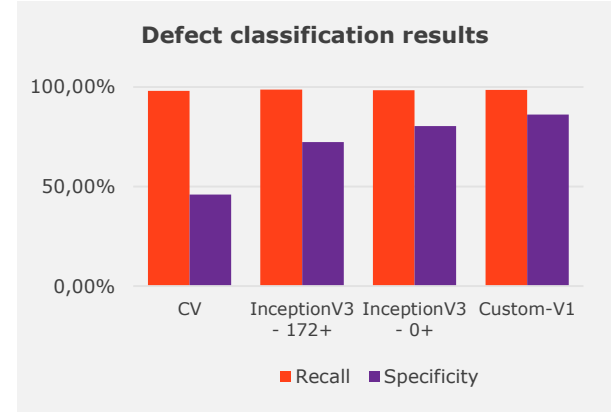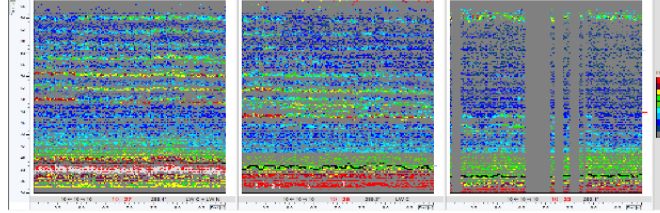
Business Challenges

- Defects in pipelines can cause environmental catastrophes and loss of resources
- **Pipeline inspection robots** travel through the pipeline, recording sensor data that is used to identify potential defects
- The sensors produce **huge amounts of data** that need to be processed and stored online.
- **Analyzing the images** requires special training and is very time intensive. Senior Analysts need several years of experience.

Solution

Deep Learning Image Classification Model to automatically detect defects

- **Image classification model** that can automatically detect defects in an given image
- **Deep Learning Model** was created using Python and Tensorflow
- Experts perform more detailed reviews where the model is not confident.

Benefits

- **Over 99.5% defect detection accuracy** while maintaining over 60% accuracy for non-defects.
- Productionization is currently ongoing.

Better diagnosis & Patient care

Hypothetical future state of a highly automated emergency department

Client Challenges

- High level of human interaction causing long patient waiting time
- 80-85% of patients are walk-ins requiring check-ups, laboratory tests, Doctor examination and prescribe medicines. Followed by payment collection and document compilation

Solution

- Understand areas to minimize manual interactions, automate registration/ documentation, diagnostic advice etc.,

Benefits

- **Up to 30% performance gains** in emergency rooms
- Productivity rise by savings time at the registration desk and Lab testing

Predicting chlorosis in Soybean crops

- **Including geo spatial** to complete and challenge the approach
- **Comparing different analytical models** to always choose the best: Logistic Regression, Random Forest, K-Nearest Neighbors, & Support Vector Machines, to better predict chlorosis
- **First specialized and proven results in less than 3 months**

Client Challenges

- Chlorosis impacts significantly crop yields and overall production
- The only possible diagnostic was made when detecting a change of color in the soil or when symptoms appeared
- **Can we predict chlorosis in a crop before planting?**
- **What are the influencing variables?**

Solution

- Understand soy beans quality variations
- Understand relationships between chemicals, geological, meteorological, altitude, localization parameters
- **Iterative work with farmers to detect influencing variables** for each crop and therefore optimizing measures
- **Prediction of chlorosis risks,** including geo spatial specificities

Benefits

- **Increased production** and optimized yield
- **Challenged previous diagnostics** and results via satellite data analysis

Train and Railway Predictive Maintenance

Train DNA sequence and predictor the future crash act on incoming traffic

- **Including geo spatial** to complete and challenge the approach
- **Comparing different analytical models** to always choose the best: Logistic Regression, Random Forest, & Support Vector Machines, to better predict interruption of service
- **First specialized and proven results in less than 6 months**

Client Challenges

- **Avoid train interruption** during peak hours on critical railways
- **Better plan the railways maintenance**

Solution

- **Machine learning based on IoT sensors** for error code **and NLP** interpretation of written report to predict a future interruption 30 minutes in advance.
- Exposition of the critical level to the railways operating team with suggestion based on the traffic.
- A solution based on an **Hortonworks datalake based on Spark and Elasticsearch** search engine

Benefits

- Efficiency & economy: **80% of interruption were accurately predicted**
- **Improve & plan railway maintenance:** Maintenance operatives are working on sites in need of maintenance instead of randomly

Thank You!