



Artificial Intelligence in Supply Chain Management

An end-to-end “Real Time” solution for complex Supply Chains

Who we are and what we do

- Boutique Consulting Company Created in 2001
- +50 Projects executed internationally
- Focused on projects with a flexible network of specialised consultants
- Guatemala Headquarters



Real Time Solutions

Private sector, Banking, Multilateral Banks y Government

Performance Dashboards Scenario Planning y Big Data analytics

- End-to-End real time data extraction and visualisation of key Supply chain variables
- Monitoring, alarms, predictive analysis
- Real time Scenario simulation for line saturation analysis and Capex planning in production systems
- OEE simulation for target setting and Operations planning

Robots with AI and deep Machine learning

- Autonomous AI-Robots with pattern recognition and forward learning behaviour
- Real time management of thousands of variables

Cloud based architecture

- Cloud infrastructure design for large interconnected Operations
- AWS certified teams

Award: "Innovation in Supply Chain Management 2023"



DRAXTON
Mobility inspired

CINSA
Cocina con sabor a hogar

VITROMEX
MI ESPACIO, MI MUNDO

CHN

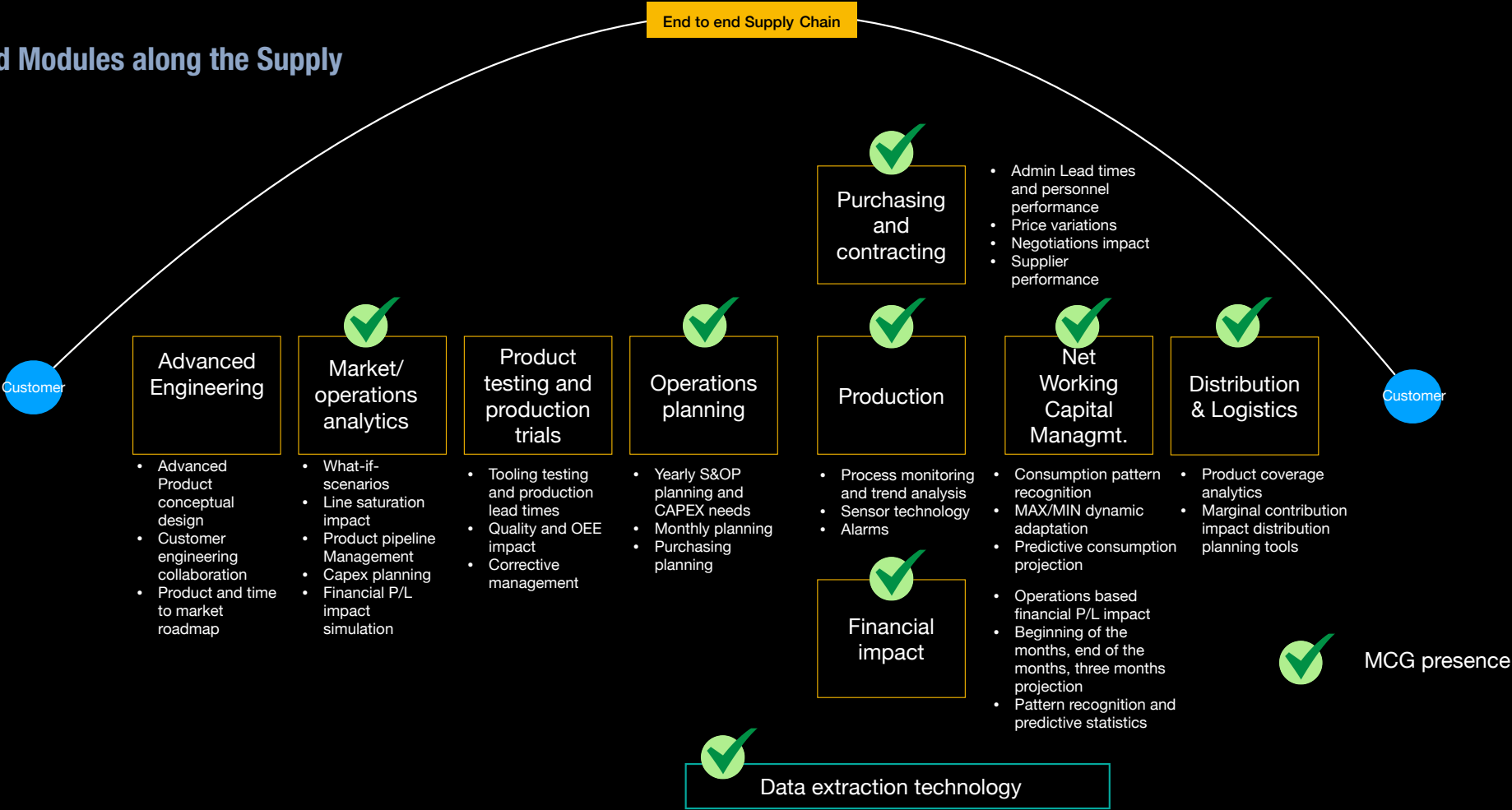
BANCO MUNDIAL
IDB

german cooperation
DEUTSCHE ZUSAMMENARBEIT

GOBIERNO DE GUATEMALA
MINISTERIO DE FINANZAS PUBLICAS

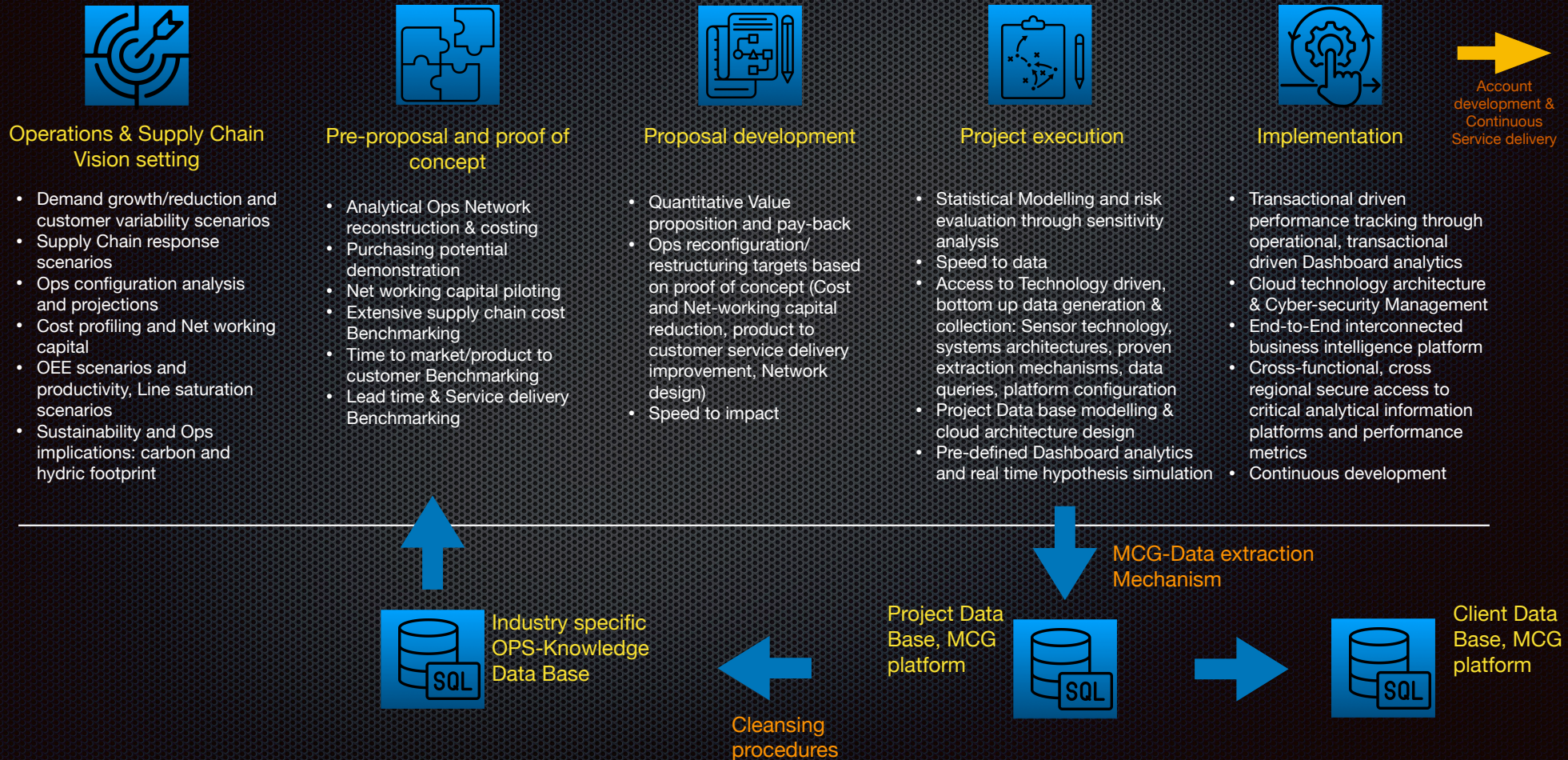
EVERCAST

Integrated Modules along the Supply Chain



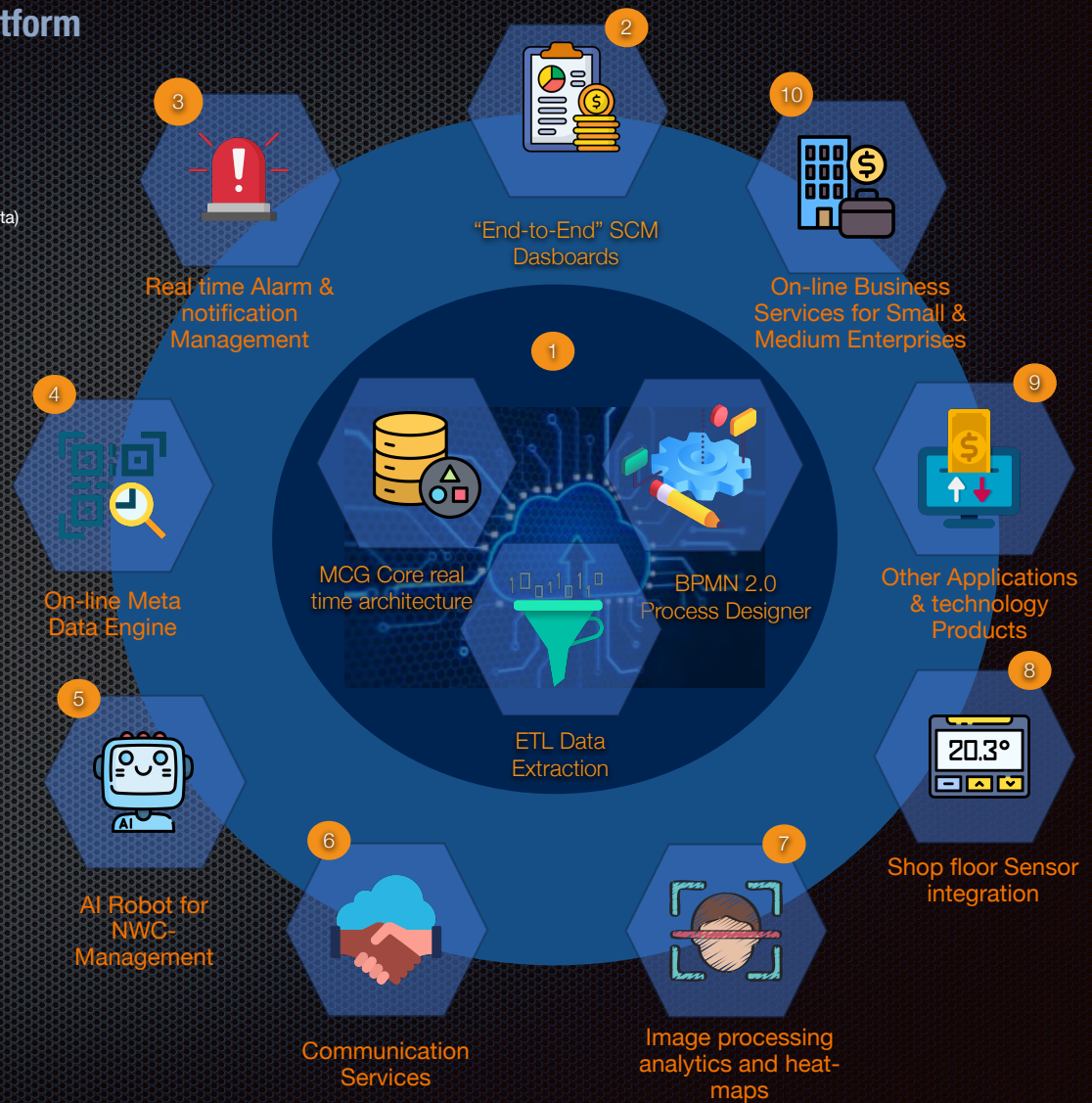
ERP-System, source for historical and transactional data in all enterprise areas: commercial and customer demand patterns, production, quality, purchasing, finance, Inventories, logistics, delivery performance, etc.

MCG can offer support to your teams in all Phases of the client interaction process, through Data extraction, Dashboard analytics and secure cloud based technology platforms, as well as the account development and continuous Service Delivery

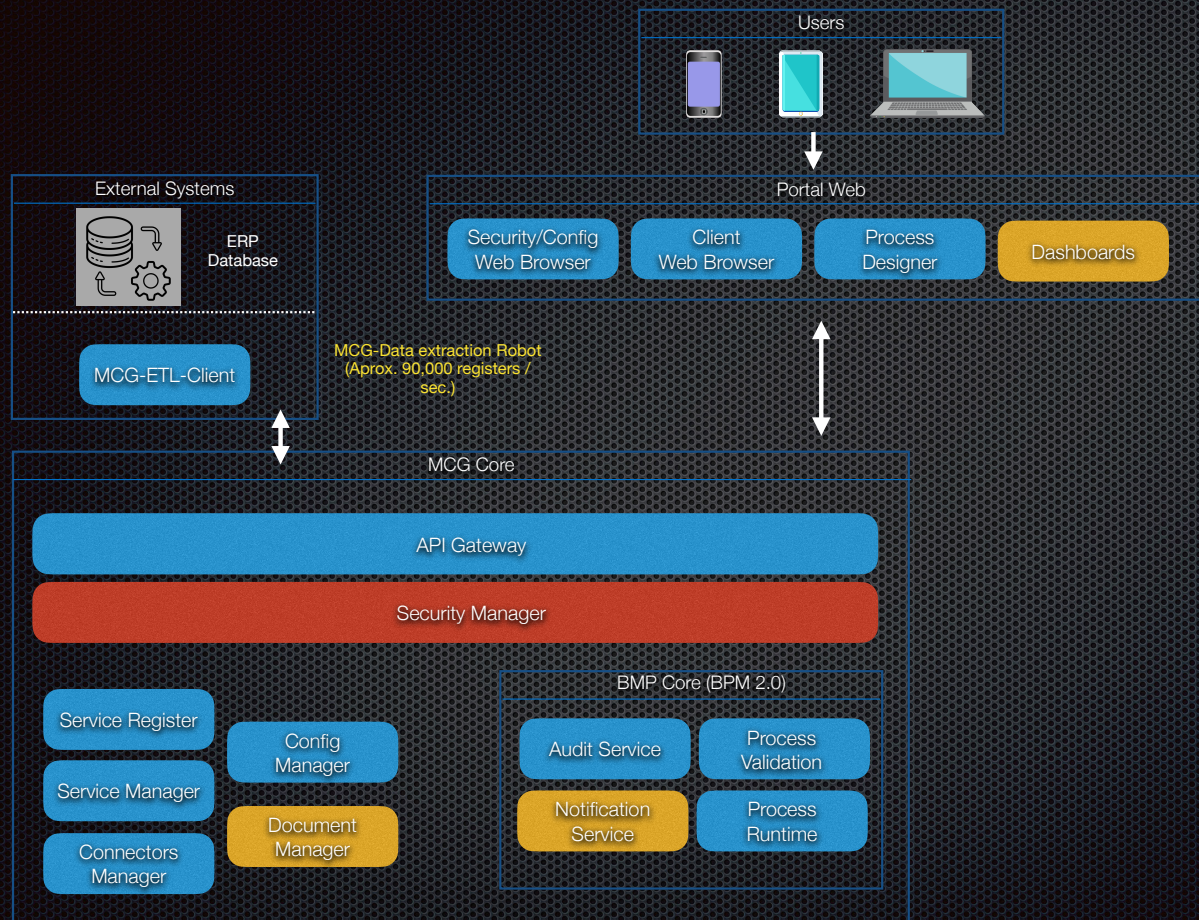


MCG's proprietary real-time SCM Eco-System Platform

- 1 MCG Real time Core
 - High speed Data Extraction Engine
 - BPMN 2.0 Process Designer connecting any measured variables
 - Controlled access, state of the art Cyber Security
- 2 "End-to-End" SCM-Dashboards
 - "End to End" Real time Supply Chain indicators, over 200 dynamic indicators and 500 Data views (all based on transactions and real time Data)
 - Mathematical Modelling and statistical analysis fully integrated
 - All Tables and processed Data exportable to Excel
- 3 Alarm & Notification Mngmt.
 - Alarm and messaging processes triggered by violation of set targets
 - System opens tickets, which need to be completed, within a time period, otherwise automatic escalation
 - Graphical displays of alarms at any Data level
- 4 On-line Meta Data Engine
 - Self Service Analytics
 - Fully integrated with real time DataMarts
 - Immediate graphical configuration and documentation
- 5 AI-Robot
 - AI based learning Net Working Capital Robot
 - 80 Installation worldwide in different Industries
 - Managing currently over 600 000 SKU's without any stock outs
- 6 Communication Services
 - Broad communication platform for data exchange (Planning Data, Inventory requests, Requisitions, etc.)
 - Forward and backward integration with suppliers and/or customers through Micro-Services (Jason technology)
- 7 Image Processing Analytics
 - Extensive Object recognition algorithm and analytics (Counting, Gender, Age, dynamic movements, etc.)
 - Integration of local Microprocessors to "pre"-process images
 - Full use of already installed IP Camera-infrastructure
- 8 Shop Floor Sensor integration
 - Integration of real time sensor data for measurement in shop-floor (temperature, speed, humidity, etc.)
 - Statistical modelling, alarm setting, etc.
- 9 Other Applications & Technology Products
 - Open architecture to integrate innovative applications and services
 - No limitations on Brands or Operating systems
- 10 SME-Business Services
 - Fee for service model in Supply Chain Management for SME's
 - Full use of all "Plug and Play" modules and analytics



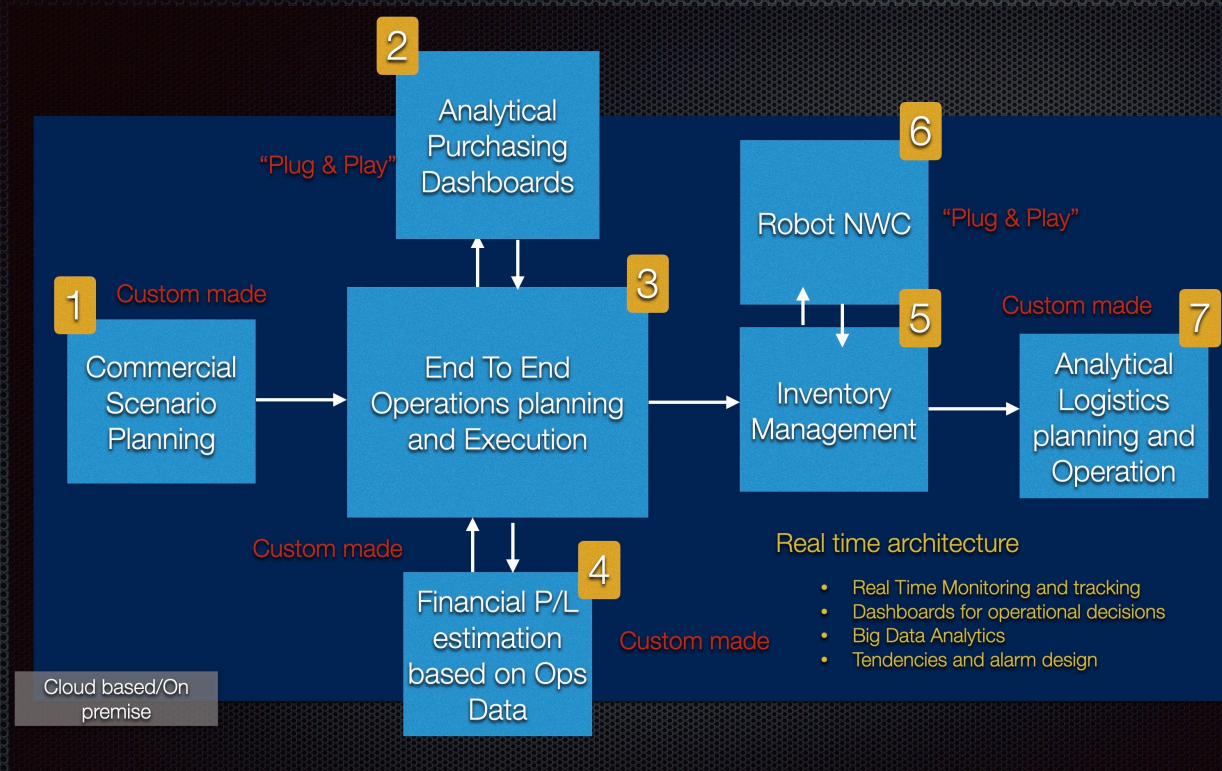
Our MCG proprietary platform provides secure front and back end design, allowing consultants to operate it



- Users, regardless of their role, will use the Web portal as a client application, which will have a configuration of both options and views, specific for each role
- The security module (Security Manager) is in charge of validating the user password, depending on the validation system, according to the origin of the user
- The security system is based on roles, therefore, the user will have the options configured according to their role, for example, if the user has the option to modify the process enabled, the option will appear visible within the Web portal, the option is Process Designer; which will allow the established processes to be modified; as well as the Dashboard display options, will be limited by role.

MCG Supply Chain Suite for real time Management and Performance tracking

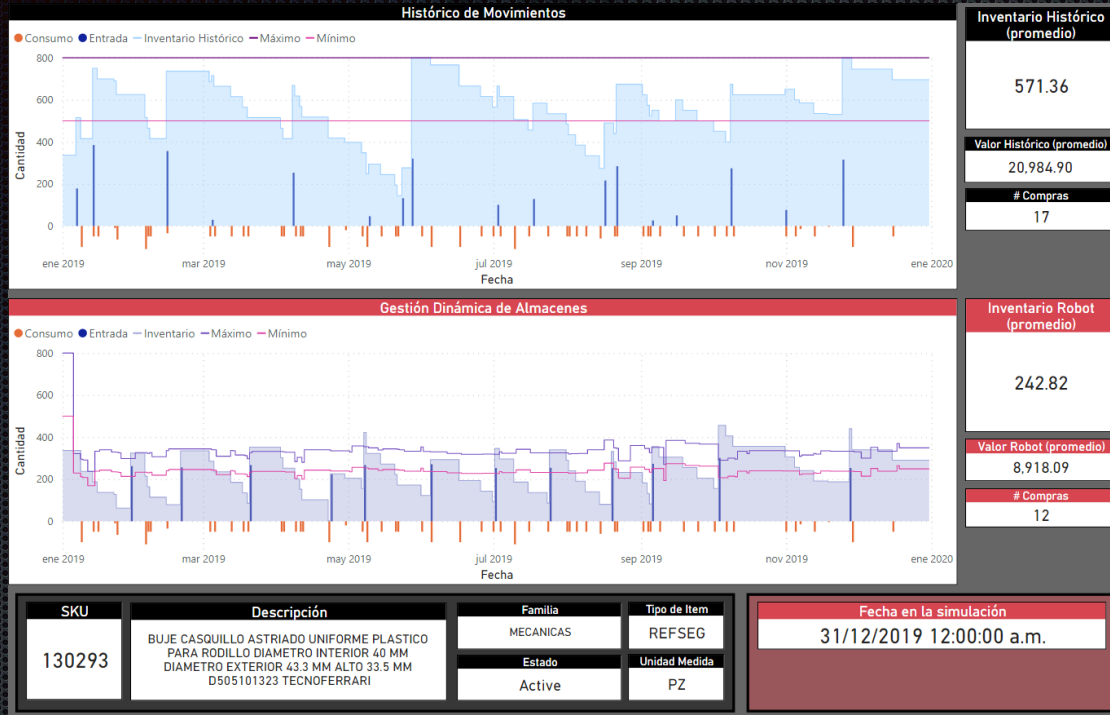
Platform architecture
"End-to-End" SCM-Dashboards
Alarm & Notification Mngmt.
On-line Meta Data Engine
AI-Robot
Communication Service



- 1
 - 1-5 Years Planning horizon
 - Strategic scenarios and CAPEX identification
 - Bottleneck analysis
- 2
 - Integrated operational Purchasing Management
 - Supplier performance tracking
 - Bottom line analysis and dynamical progression
- 3
 - Production variables and Performance tracking
 - OEE, Energy tracking anaanalysis
 - Raw Material analytics and vrs Int. Commodity tracking
 - WIP and End product inventories
 - Shipment and coverage
- 4
 - Monthly P/L forecasting
 - Tracking of key Costs variables
 - Correction boards for atypical events for better P/L estimation
- 5
 - Visualisation of demand patterns and purchasing requisitions
 - Daily instructions tracking
- 6
 - Autonomous AI Robot for Net Working Capital reduction
 - Requisitions suggestion
- 7
 - Analytical Route analysis
 - Decision making process based on Marginal contribution analysis

Autonomous, learning Net Working Capital Robot providing timing and sequences of strategically placed requisitions and demand driven adaptations of Min/Max

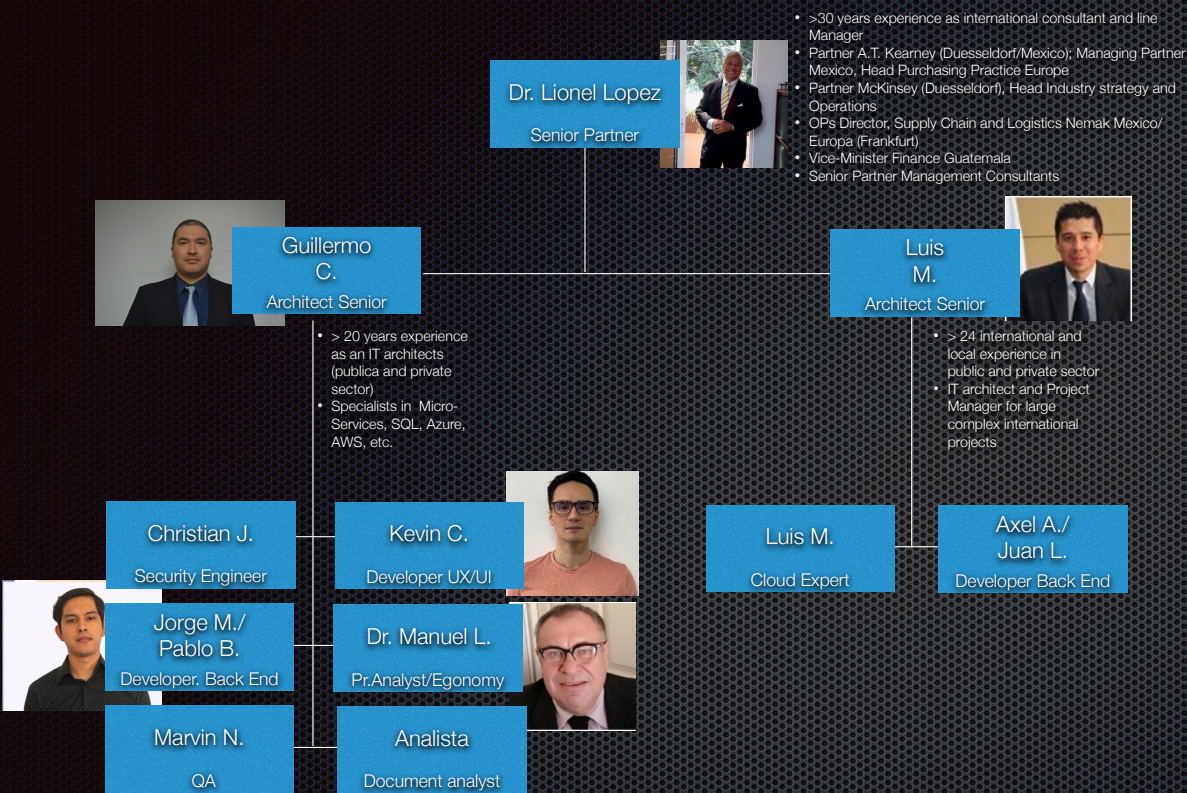
Simulation



- Robot managing in real time over 600 000 SKUs in 10 different production plants in 7 different countries in Europe and Mexico
- Programmed in R (statistical programming language)
- Embedded in the cloud providing requisition instructions through a portal back to the ERP
- Average impact 50% Net Working Capital reduction
- Impact in more than 50% in the administrative requisition process

Team

Ops specialists, Engineers, IT architects, programmers



Developers with extensive international experience and certifications

Functional description	Experience and Certification
Project Leadership	<ul style="list-style-type: none">PMI
Security Engineer	<ul style="list-style-type: none">Cyber Security ToolsSecure Development
Cloud expert (AWS/Azure)	<ul style="list-style-type: none">AWSAzure
Team leader (interfaces)	<ul style="list-style-type: none">PMIScrum Master
Team leader (BackEnd)	<ul style="list-style-type: none">PMIITILSCRUM MasterCOBIT 5
Developersinterfaces	<ul style="list-style-type: none">metodologia ScrumJAVASpring BootSpring CloudContainerSQL
Developers Back-end BPMN 2.0	<ul style="list-style-type: none">metodología ScrumJAVASpring BootSpring CloudContainerSQL
Developer UX/UI	<ul style="list-style-type: none">metodología ScrumAngularJAVASpring BootSpring CloudContainerSQL
Process analyst	<ul style="list-style-type: none">BPMN 2.0AWS
QA	<ul style="list-style-type: none">Scrum
Analista documentador	<ul style="list-style-type: none">Procesos de Quality Analyst