



**A MASSY GROUP
COMPANY**



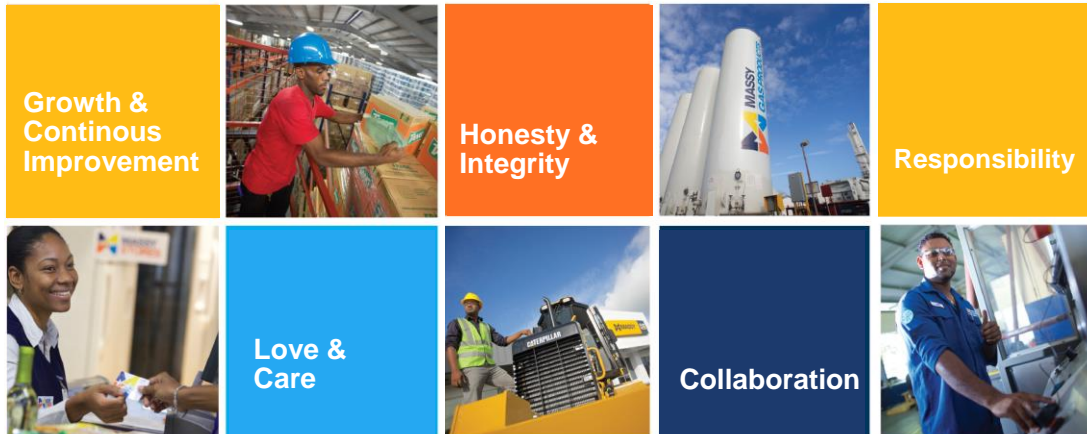
MASSY GROUP IN LATIN AMERICA AND CARIBBEAN





MASSY GROUP

OUR VALUES



A background of blurred green grass, likely a field of tall grasses, with a soft focus effect. A semi-transparent white horizontal bar is positioned across the upper portion of the image.

OUR PURPOSE

**WE ARE
A FORCE
FOR GOOD**

CREATING VALUE, TRANSFORMING LIFE



MASSY GROUP IN NUMBERS



USD \$1,6 Bn

Annual sales

+11.000

Employees

35

Offshore Fields

+75

Companies

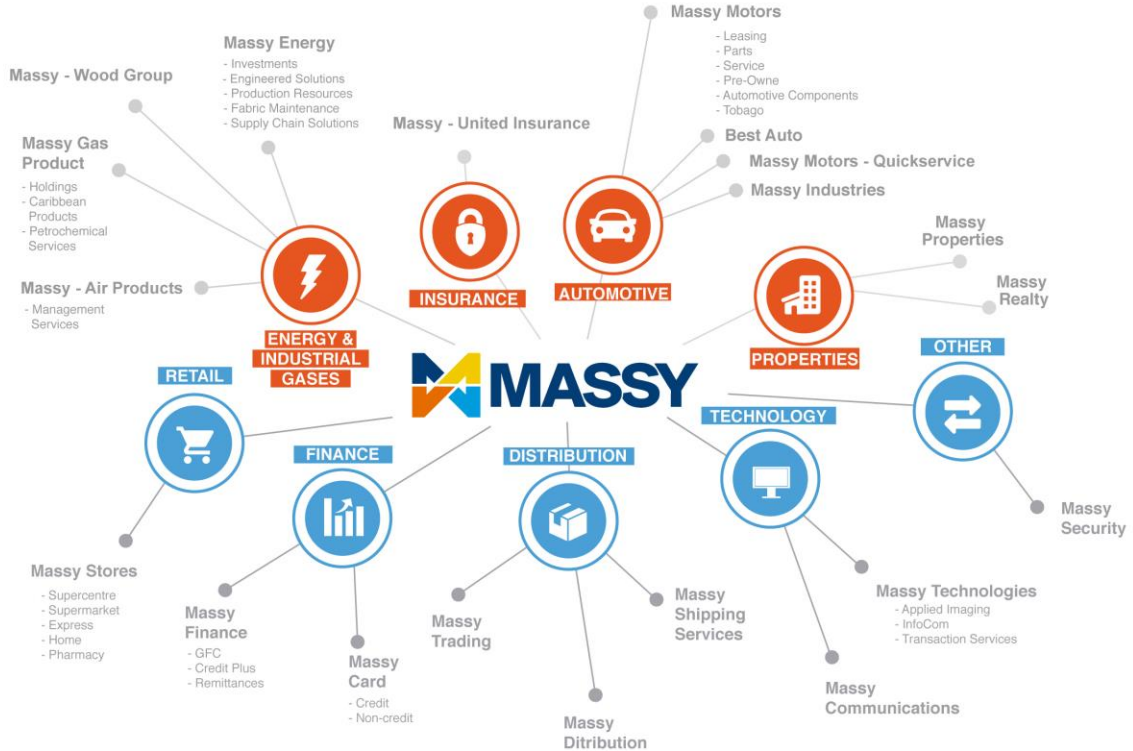
10

Countries

BUSINESS TO BUSINESS



BUSINESS UNITS



BUSINESS TO CONSUMER



MASSY ENERGY COLOMBIA

A MASSY GROUP COMPANY

MISSION

“

*We are a company that provides services, through a **culture of innovation** with a committed staff. We operate with efficient processes aligned to the needs of our clients, ensuring the quality, integrity, safety, health and environment in all our operations.*

”

VISION

“

*Be recognized for **being ahead of the needs of the industry** based on the competence of our people, permanent innovation and our values as the center of everything we do, achieving sustainable development.*

”



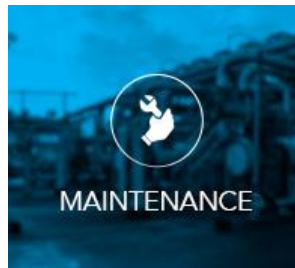
MASSY ENERGY COLOMBIA

- Industrial
- Oil & Gas
- Petrochemical
- Biofuels
- Energetic
- Mining
- Siderurgical
- Infraestructure



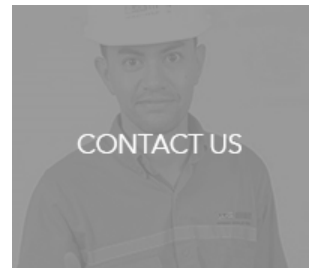
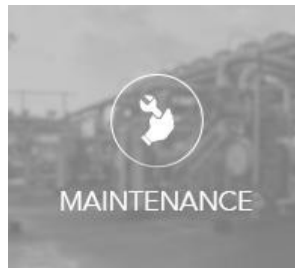


MASSY ENERGY BUSINESS LINES





MASSY ENERGY BUSINESS LINES





SUPPLY CHAIN MANAGEMENT

WE ARE

“

*We are an expert force providing
integrated solutions customized
according to your Supply Chain*

”

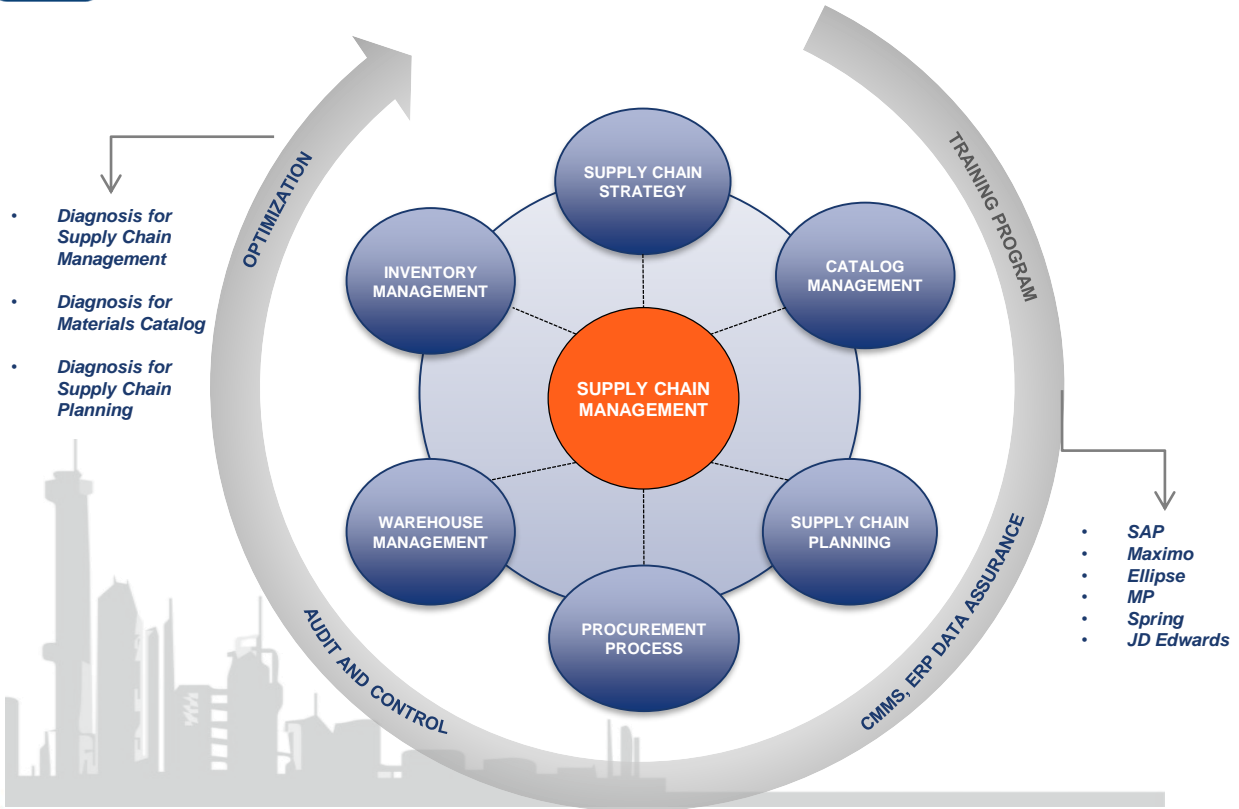


SOLUTIONS IN

- **Supply Chain Strategy**
- **Catalog Management**
- **Supply Chain Planning**
- **Procurement Process**
- **Warehouse Management**
- **Inventory Management**



OUR SOLUTIONS





SUPPLY CHAIN STRATEGY

We are able to provide strategic solutions and assist companies with their business plans including the identification, selection and implementation of management change initiatives.



Definition of:

- Policies
- Processes and Procedures
- Forms, Templates and Registers
- Key Performance Indicators

Process:

- Catalog Management
- Supply Chain Planning
- Procurement, Logistics and Expediting
- Warehouse Management: Receipts, Issues, Transfers, stock control.
- Physical stock taking
- Materials criticality



MATERIALS & SERVICES CATALOG

1. Diagnosis

- Review and analysis of Materials / Services Catalog to identify deviations that are presented in accordance to guidelines of international standards such as UNSPSC, ASME, ANSI, ASTM.
 - Presentation of Findings, Conclusions and Recommendations

2. Material Type Definition	3. Material Classification	4. Templates Assignment	5. Platform Configuration	6. Cataloguing Process
<ul style="list-style-type: none">▪ Identification of the Type of Materials as per descriptions	<ul style="list-style-type: none">▪ Classification of materials according to the group items they belong to. The UNSPSC is a hierarchical standard convention that is used to classify all products and services, the current version contains more than 22,000 terms developed by the United Nations.	<ul style="list-style-type: none">▪ Defining templates that meet the technical specifications to define the different types of materials in the Oil & Gas or another industries, enabling standardized taxonomy of materials.	<ul style="list-style-type: none">▪ Configuring the Cataloging Tool for Products and Services in accordance with the parameters agreed with the client	<ul style="list-style-type: none">▪ Field characterization of materials that require additional features to enrich the descriptions.▪ Cataloging of materials using libraries, manufacturing datasheets and manuals and industry databases.

7. Training Program



MATERIALS CATALOG

“ *The Catalog is the back bone to perform, control and optimize operation, maintenance and supply chain management* **”**

- • Improvement of technical and administrative processes.
- • Code description standardization that allows creating a competitive global language.
- • Generation of consolidated information for inventory management.
- • Increased efficiency in procurement processes.
- • Quick and friendly search of codes in the master.
- • Inventory cost reduction and reduction of materials purchase
- • Increased availability of plant and equipment
- • Increased staff productivity.
- • It is a fundamental basis for planning and replenishment of materials



SUPPLY CHAIN PLANNING - MRP

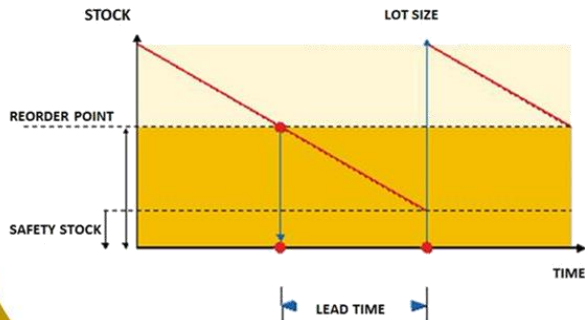
	SCOPE	MASSY ENERGY METHODOLOGY			
Materials for Planned Maintenance	<ul style="list-style-type: none">Materials for Preventive Maintenance and Major Maintenance.Consumption established through (Roadmaps - PM)	Consolidation and analysis	Definition of planning horizon	Balancing and leveling of Stock	Proposal suggested replenishment quantities
Materials Corrective and Emergency Maintenance	<ul style="list-style-type: none">Materials Corrective and Emergency Maintenance based on historical failure of components (Workshops)	Verification of critical equipment by taxonomy and qualitative analysis of criticality.	Identification of critical materials associated with equipment subject to planning (workshops).	Model re-provisioning according to criticality matrix and historical consumption.	Submit proposal for procurement of critical materials.
Materials Consumables	<ul style="list-style-type: none">Consumables based on historical consumption and service level agreement with the client.	Review and analysis of historical data to determine: Rotation, "Lead Time" service level.	Calculator provisioning levels according to statistical modeling.	Proposal for levels of inventory replenishment and balance.	



SUPPLY CHAIN PLANNING - MRP

Input

- ABC Rotation: Materials indicator for the last 3 years.
- Listings of existing materials planned. MRP.
- Roadmaps associated to maintenance spares
- Material consumption history associated with WO
- Lead Times



Results

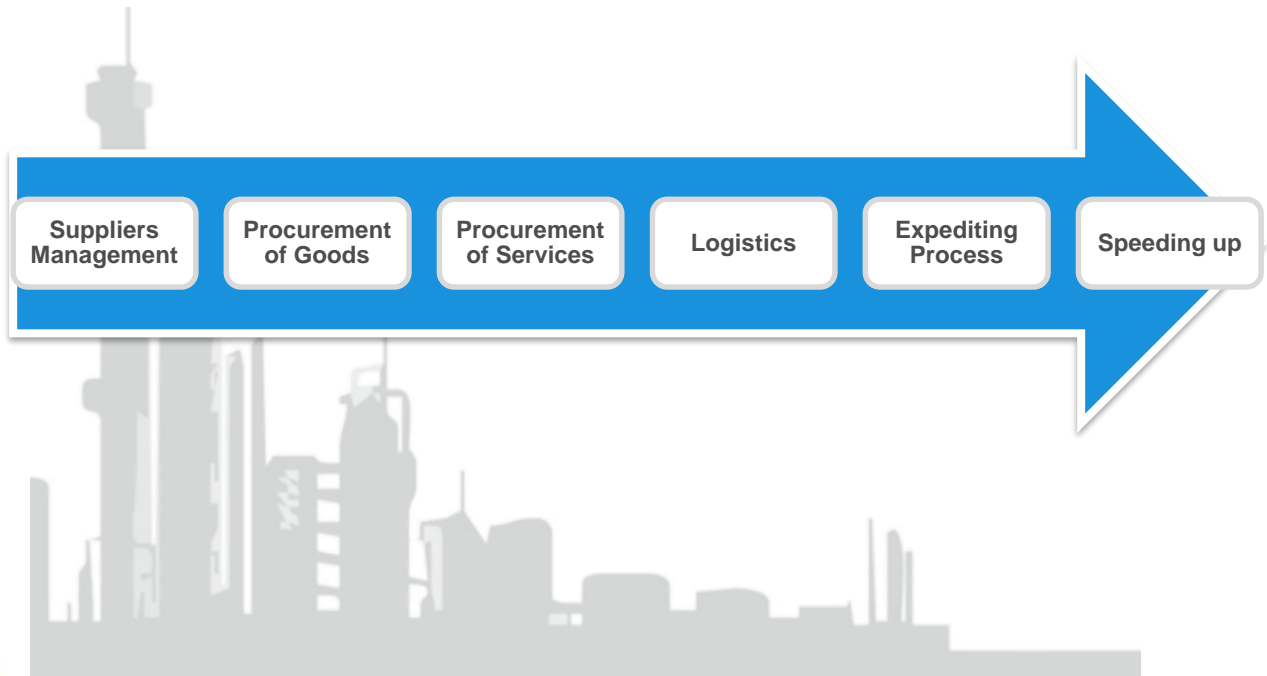
- Demand Forecast
- Replenishment Strategies
- MiniMax
- Inventory Levels
- Safety Stock

Benefits

- Definition and Auto-Replenishment process
- Availability of spare parts and critical materials to meet operational commitments
- Reduce the unavailability of infrastructure for lack of materials
- Optimal Inventory Levels

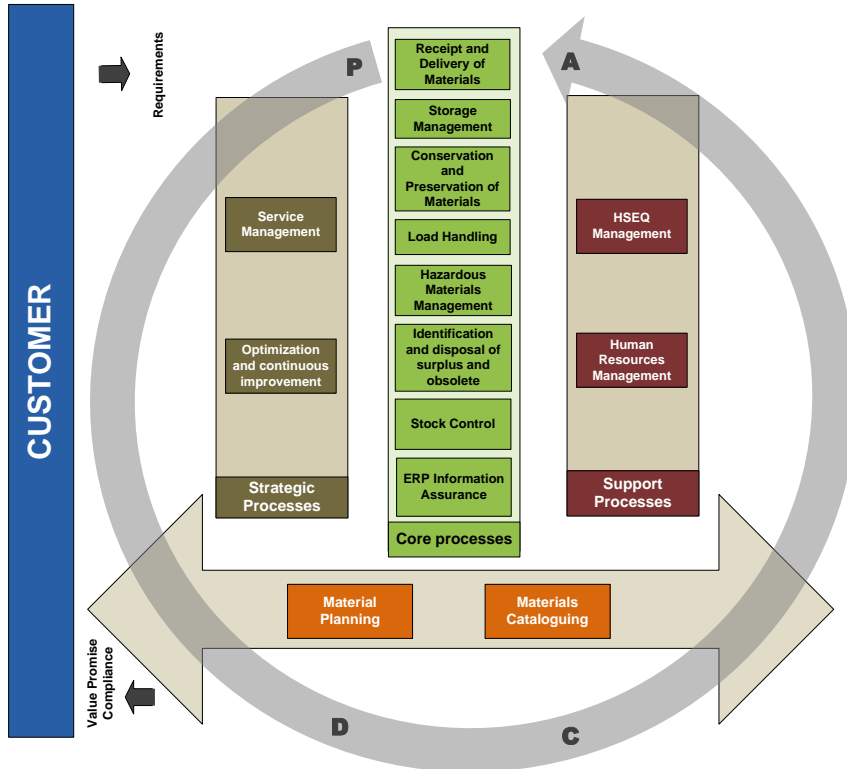


OUTSOURCING PROCUREMENT PROCESS



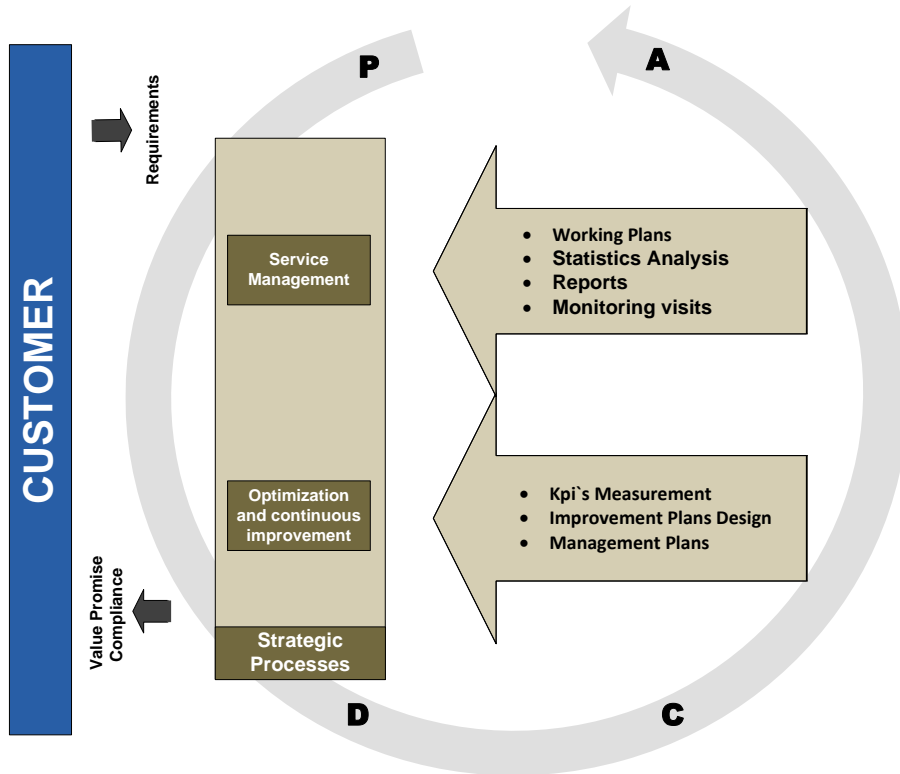


WAREHOUSE MANAGEMENT OUTSOURCING MODEL



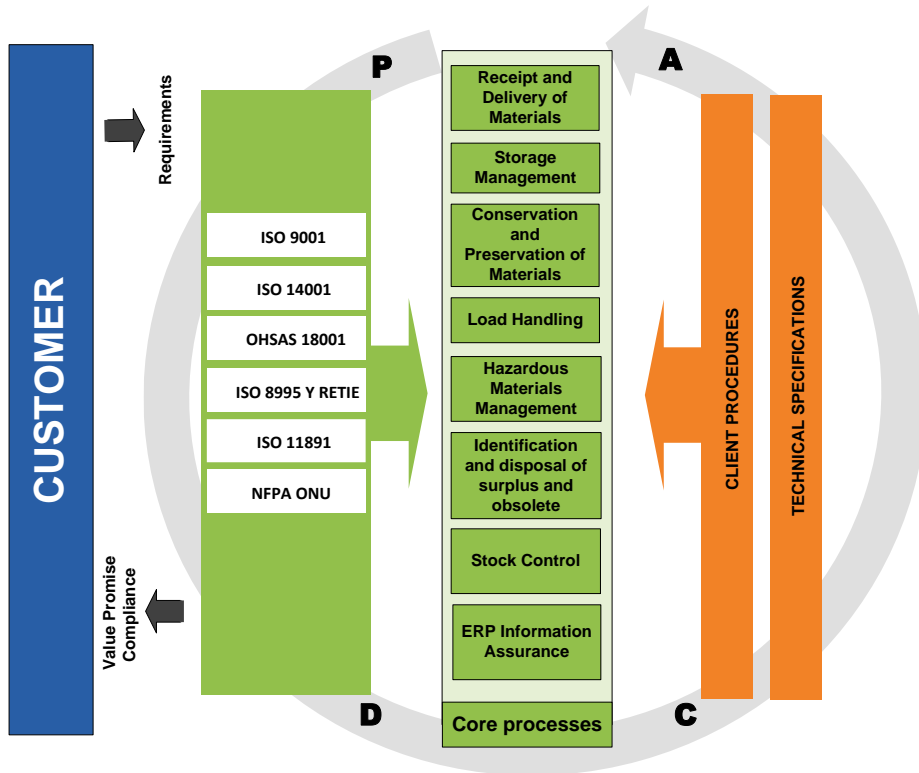


WAREHOUSE MANAGEMENT STRATEGIC PROCESSES



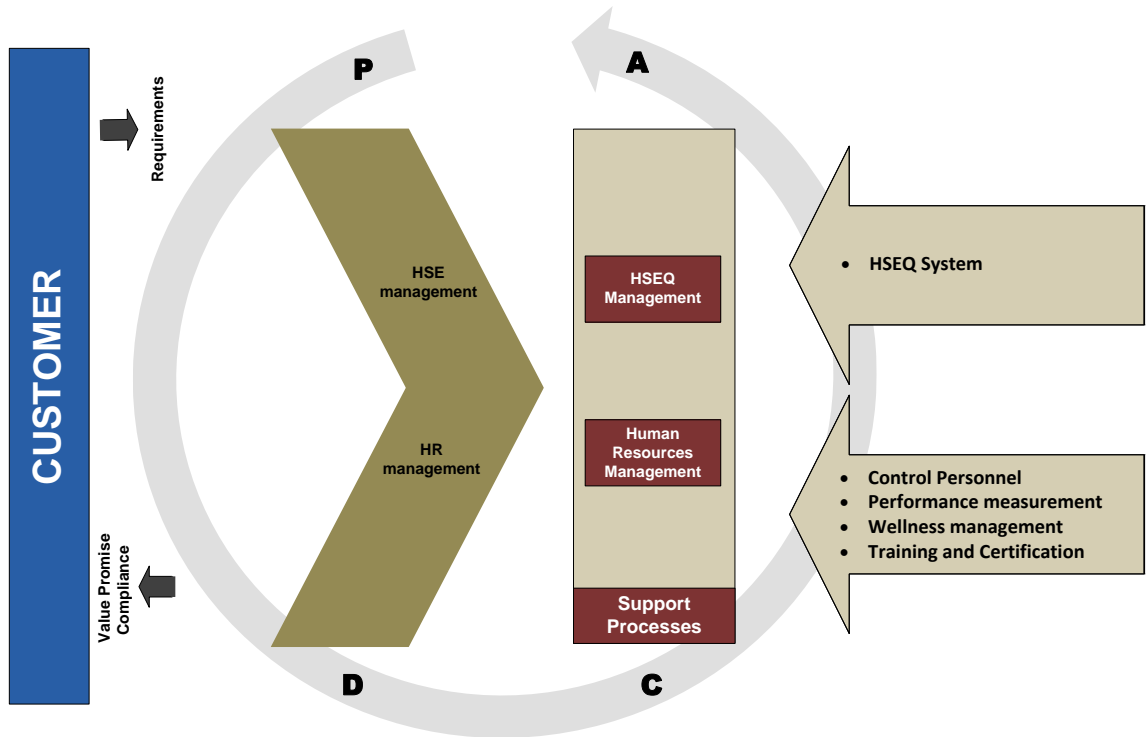


WAREHOUSE MANAGEMENT CORE PROCESSES





WAREHOUSE MANAGEMENT SUPPORT PROCESSES





WAREHOUSE MANAGEMENT

Activities

- Identification Systems:
 - Marking Cards
 - Bar Codes
- Localization Systems:
 - Random Inventory
 - Functional Areas
 - Critical path
- Inventory Control
- Data Assurance in CMMS and ERP (Maximo, SAP, Ellipse, Spring, MP, etc.)
- Custody and control of tools, assets and materials

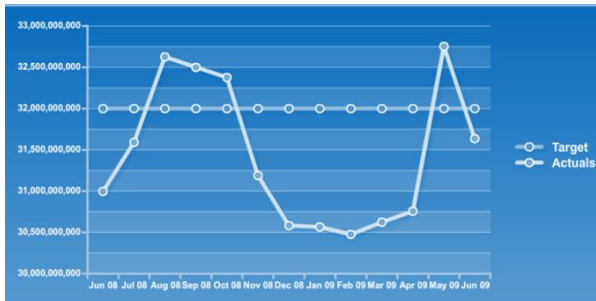
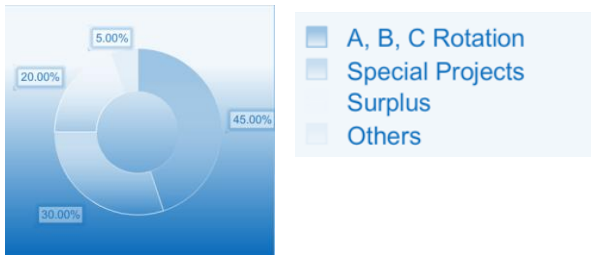
Benefits

- Reduction of in-house employees to decrease payroll costs and related expenses.
- Access to supply chain professionals with years of experience to provide a competitive advantage over competitors.
- Improve the efficiency of your business's fulfillment and supply chain processes.
- Maintain higher safety, quality, and efficiency standards.





WAREHOUSE AND VALUATION MANAGEMENT



Services:

- Inventory of Materials, Fixed assets, tools (according to IFRS)
- Valuation of Materials, Fixed assets, tools (according to IFRS)
- Inventory Characterization
- Identification and disposal of surplus
- ABC Cost Analysis



OUR EXPERIENCE CONTRACTS AWARDED 2006-2016

CLIENT
AES CHIVOR
BP
BPZ Energy
Catalogación HIS
CODENSA
ECOPETROL
EEB (Empresa de Energia de Bogotá).
EEC (Empresa de Energia de Cundinamarca)
EMGESA
Empresa Agroindustrial Laredo S.A.A
EQUION
Mansarovar Energy Colombia LTD
Neal & Massy Wood Group
OCENSA (Oleoducto Central de Colombia S.A.)
Oleoducto de los Llanos Orientales S.A.
Pacific Rubiales Energy
Petroamazonas
ROHM AND HASS COLOMBIA
TGI (Transportadora de Gas del Interior E.S.P)
TGI (Transportadora de Gas Internacional).



OUR EXPERIENCE CONTRACTS AWARDED 2006-2016

Client	Experience	Duration	
Oleoducto Central Ocensa S.A. Colombia	Supply Chain Strategy Materials Cataloguing Supply Chain Planning Procurement Process	12 Years 2004 – 2016 (Ongoing)	
Oil & Gas Industry	Warehouse Management Inventory and Valuation Management		
BP Colombia	Management, administration and materials inventory control during 2 years, Catalog management. (Finished)	2 Years 2011 – 2013	
Oil & Gas Industry	Cataloging services, maximum and minimum definition, safety stock, equipment criticality study		
AES CHIVOR Colombia	Supply Chain Strategy Materials Cataloguing Supply Chain Planning Warehouse Management	9 Years 2008 – 2017 (Ongoing)	
Energy Industry			
Empresa de Energía de Bogotá (EEB) Colombia	Supply Chain Strategy Materials Cataloguing Supply Chain Planning Warehouse Management	9 Years 2008 – 2017 (Ongoing)	
Energy Company			



OUR EXPERIENCE CONTRACTS AWARDED 2006-2016

Cliente	Experiencia	Duración	
Massy Wood Group BP Trinidad & Tobago Oil & Gas Industry	Materials Cataloguing Inventory Stocktaking	6 Months 2013 – 2014	
Massy Wood Group Repsol Trinidad & Tobago Oil & Gas Industry	Supply Chain Planning Calculate and present the recommended stock levels for the spares and consumables related with Corrective & Preventive Maintenance	9 Months 2014	
Pacific Rubiales Colombia Oil & Gas Industry	Materials Cataloguing Inventory Stocktaking	2 Years 2013 – 2014	
Codensa, Emgesa and Endesa Colombia Energy Industry	Inventory Stocktaking Warehouse Management	6 Years 2008 – 2017 (Ongoing)	



OUR EXPERIENCE CONTRACTS AWARDED 2006-2016

Client	Experience	Duration	
Transportadora de Gas Internacional (TGI) Colombia Gas Industry	Supply Chain Strategy Materials Cataloguing Supply Chain Planning Warehouse Management Inventory and Valuation Management	9 Years 2008 – 2017 (Ongoing)	
ISAGEN Intercolombia Colombia Energy Industry	Supply Chain Strategy Materials Cataloguing Supply Chain Planning Warehouse Management Inventory and Valuation Management	5 Years 2015 – 2020 (Ongoing)	



MASSY ENERGY COLOMBIA

THE BEST CHOICE



- Our experience in Supply Chain Management Services for more than more than 18 years.
- Development of cutting-edge tools on market.
- Our processes are certified by ISO 9001:2008, OHSAS 18001:2007 and ISO 14001:2004
- Personnel certificated by Competency Standards
- Capability of implementing international standards and best practices of industry based on benchmarking evaluation

¡ALL OUR EXPERIENCE AT YOUR SERVICE!



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