



Siempre será mejor
encender una luz que
maldecir la oscuridad.

CARLOS SHERMAN

Adaptado de un antiguo proverbio chino

SHERMAN | Adágios

Gestión Inteligente de Recursos y Conocimiento, Modelamiento de Procesos y Tecnología

| Carlos Leger SHERMAN Palmer, PhD

Gestión Inteligente de Recursos y Conocimiento, Modelamiento de Procesos y Tecnología

1. BIENVENIDOS A LA SEXTA EVOLUCIÓN ORGANIZACIONAL
2. LA ORGANIZACIÓN BASADA EN EVIDENCIAS
3. INTRODUCCIÓN A LA NEUROCIENCIA PARA LA TOMA DE DECISIONES

Recapitulando

OBJETIVO Confesado

Revisar el concepto de 4IR,
o Cuarta Revolución Industrial,
presentando una nueva visión,
defendida por el poniente
durante la reciente Hannover
Messe 2024, o **6X - Sexta**
Evolución Organizacional...

Recapitulando

OBJETIVO

Secreto

Convencerlo de que (i) no tenemos el control de nuestras acciones, (ii) vivir es una lucha perdida contra la Segunda Ley de la Termodinámica, (iii) inventamos la ciencia - método deductivo acumulativo que culmina en la comprobación - para testar a nuestra propia lucidez.

Gestión Inteligente de Recursos y Conocimiento, Modelamiento de Procesos y Tecnología

1. BIENVENIDOS A LA SEXTA EVOLUCIÓN ORGANIZACIONAL
2. LA ORGANIZACIÓN BASADA EM EVIDENCIAS
3. INTRODUCCIÓN A LA NEUROCIENCIA PARA LA TOMA DE DECISIONES

OBJETIVO

Confesado

#1

Ante la infinidad de alternativas tecnológicas, ante la complejidad de nuestro tiempo, ante las promesas de la inteligencia artificial, **cual es el camino para la dicha transformación digital en el AgroBusiness – alimentos y bioenergía renovable?**

OBJETIVO

Confesado

#2

Cuál es el camino para construir una organización que sea tan exitosa cuanto sostenible, y que deje un aporte a la sociedad y al planeta? Como invertir en automatización y tecnología integrando toda la organización?

OBJETIVO

Secreto

#1

Convencerlo de que (i) nada reemplaza el trabajo duro y persistente, (ii) el conocimiento precede la tecnología, (iii) la inteligencia debe ser aplicada en toda la jornada y no apenas al final – para remediar; (iv) AI no es ni milagroso ni apocalíptico, pero necesario.

OBJETIVO

Secreto

#2

Convencerlo de que el hombre es el origen de cualquier organización, conocimiento, o tecnología - y debería ser su objetivo final! Es el hombre quien formula las preguntas, desarrolla y mantiene los sistemas, y aplica las respuestas - de los algoritmos que él ha desarrollado. Y sólo el hombre tiene MOTIVACIÓN... y ganas!



EVIDENCE-BASED ENTERPRISE

Carlos Leger SHERMAN Palmer, PhD

Parte 1

Cuestiones y Conceptos



Cuál es la ruta cierta hacia el futuro?
En términos de tecnología (e.g.)...



Promesas de un futuro mejor:

4.0

DX

AI

ML

DL



Promesas de un futuro mejor:

Industria 4.0

DX

AI

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ 6X SIXTH ENTERPRISE EVOLUTION

DX

AI

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH
ENTERPRISE
EVOLUTION

Transformación Digital

AI

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH
ENTERPRISE
EVOLUTION

Transformación ~~Digital~~

AI

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH ENTERPRISE EVOLUTION

Evidence-Based Enterprise ~~Transformación Digital~~

AI

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH
ENTERPRISE
EVOLUTION

Evidence-Based Enterprise ~~Transformación Digital~~

Inteligencia Artificial

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH
ENTERPRISE
EVOLUTION

Evidence-Based Enterprise ~~Transformación Digital~~

~~Inteligencia~~ Artificial

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH ENTERPRISE EVOLUTION

Evidence-Based Enterprise ~~Transformación Digital~~

~~Inteligencia Artificial~~

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH
ENTERPRISE
EVOLUTION

Evidence-Based Enterprise

Estadística Adaptativa

ML

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH
ENTERPRISE
EVOLUTION

Evidence-Based Enterprise

Estadística Adaptativa

~~Inteligencia Artificial~~

Machine Learning

DL



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH
ENTERPRISE
EVOLUTION

Evidence-Based Enterprise

Estadística Adaptativa

Machine Learning

Deep Learning



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH ENTERPRISE EVOLUTION

Evidence-Based Enterprise

Estadística Adaptativa

~~Machine Learning~~

~~Deep Learning~~



Promesas de un futuro mejor:

~~Industria 4.0~~ **6X** SIXTH ENTERPRISE EVOLUTION

Evidence-Based Enterprise

Estadística Adaptativa

~~Machine Learning~~
~~Neural Networks~~
~~Deep Learning~~



Construyendo el futuro:

Sixth Business Evolution

Evidence-Based Enterprise

Estadística Adaptativa

Neural Networks



No podemos pensar en un futuro que apenas repita el pasado... Así que necesitamos anotar el aprendizaje, pero necesitamos aun más de motivación para preguntar algo que todavía no se ha preguntado...

No es que no sepan ver las soluciones.

Lo que pasa es que...

No saben ver los problemas.

A handwritten signature in black ink that reads "G.K. Chesterton?". The signature is stylized and cursive.

| G. K. Chesterton

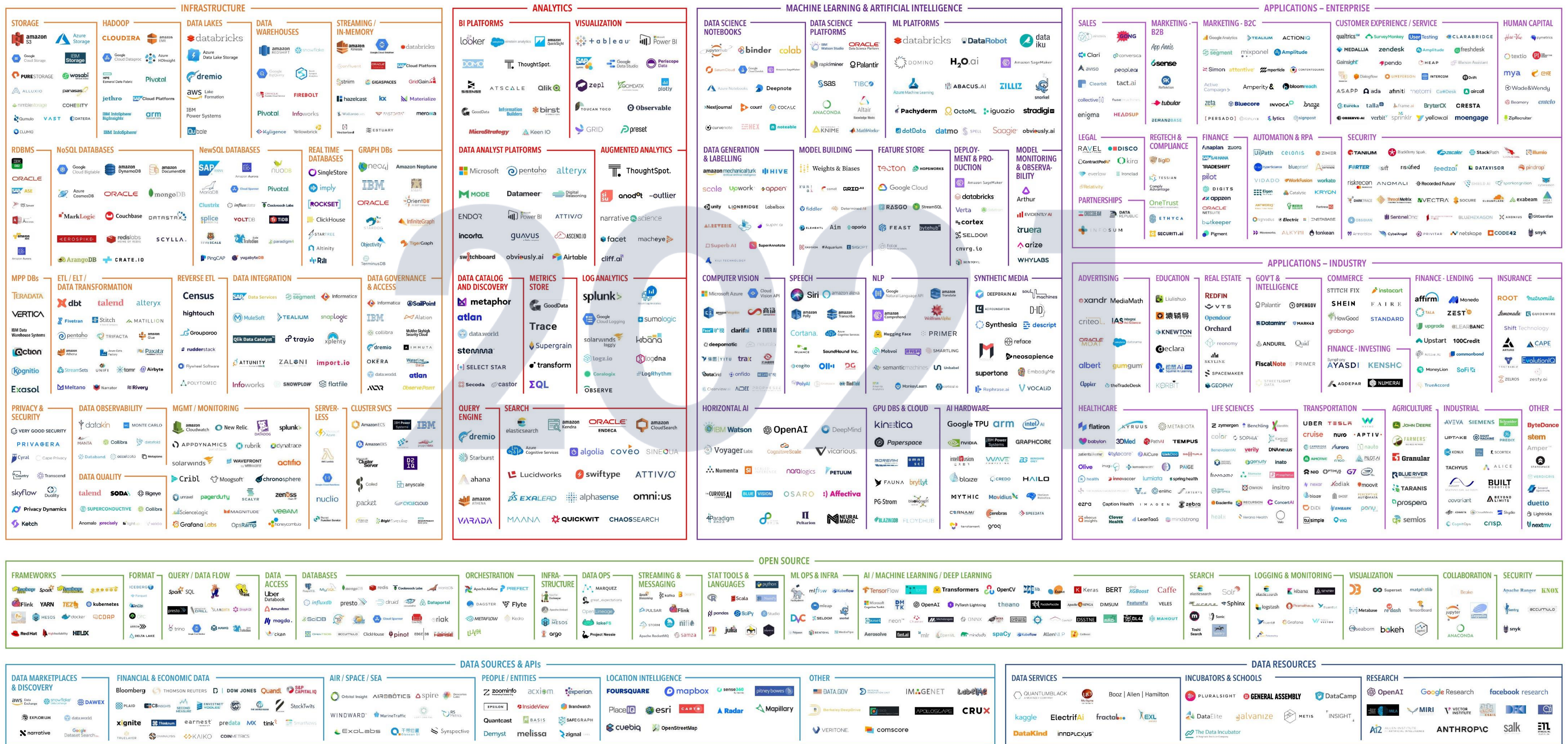
O Escândalo do Padre Brown

El AI el arte, sin la motivación
humana, no pasa de un...

MUSEO DE GRANDES
NOVEDADES...

Vivimos en una verdadera
Explosión Cámbrica Tecnológica

MACHINE LEARNING, ARTIFICIAL INTELLIGENCE, AND DATA (MAD) LANDSCAPE 2021



According to *McKinsey*, *BCG*, *KPMG* and *Bain & Company*, the **risk of failure** falls somewhere **between 70% and 95%**.

Forbes
2022

**En 100% de los casos las
empresas volverán a invertir...**

**Transformación “digital” es una
cuestión de supervivencia...**



Así que, hay muchas
rutas hacia el futuro...
Pero que hemos
aprendido hasta este
punto?

John Kotter List of Errors

Not Establishing a Great Enough Sense of Urgency

Not Creating a Powerful Enough Guiding Coalition

Lacking a Vision

Under communicating the Vision by a Factor of Ten

Not Removing Obstacles to the New Vision

Not Systematically Planning for, and Creating Short-Term Wins

Declaring Victory Too Soon

Not Anchoring Changes in the Corporation Culture



Harvard
Business
School

Harvard
Business
School
Alumni

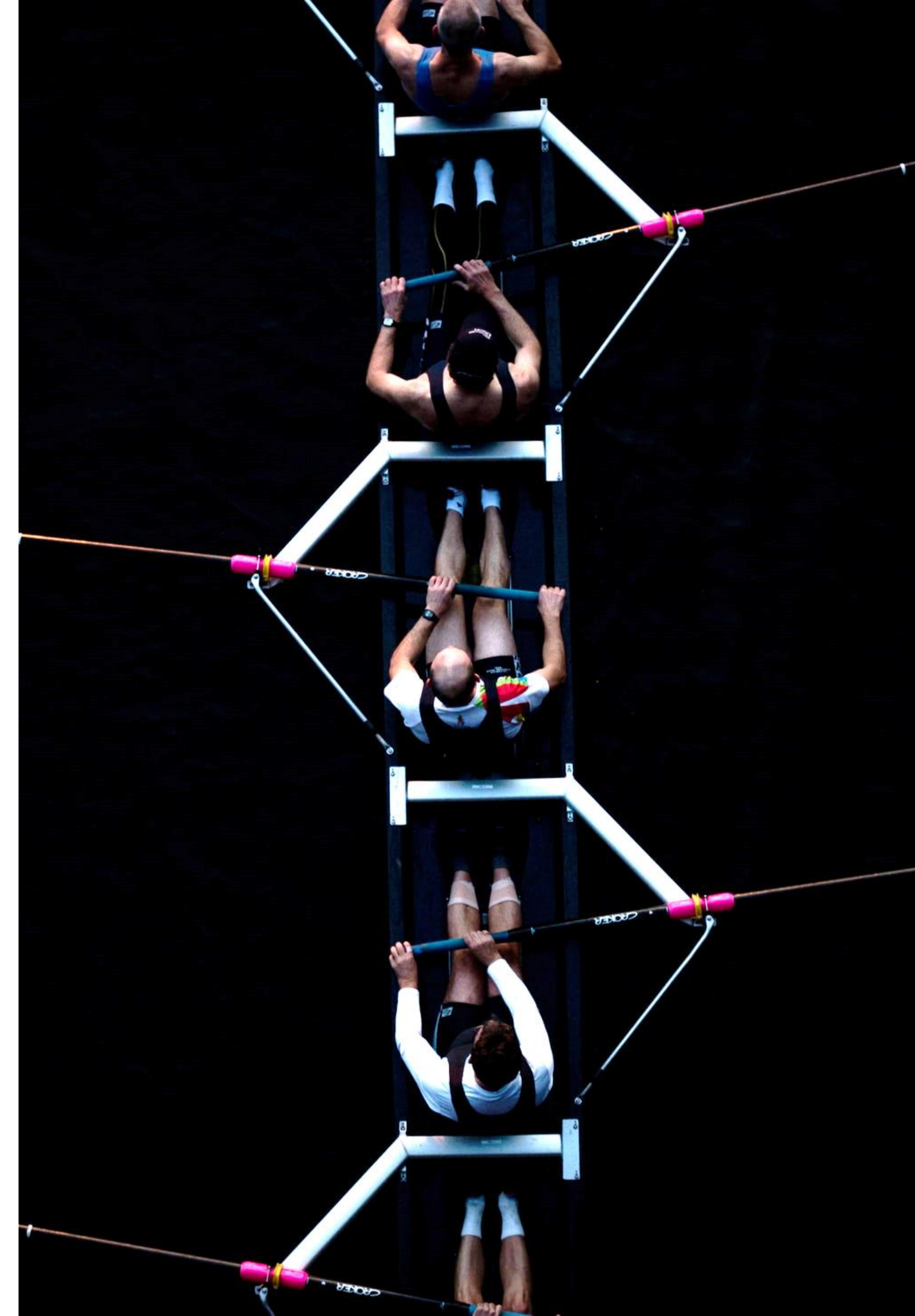
Harvard
Business
Review

The best way to predict
the future is to create it

A handwritten signature in black ink, reading "A. Lincoln". The signature is written in a cursive style with a large initial "A" and a small "L." before the name.

| Abraham Lincoln

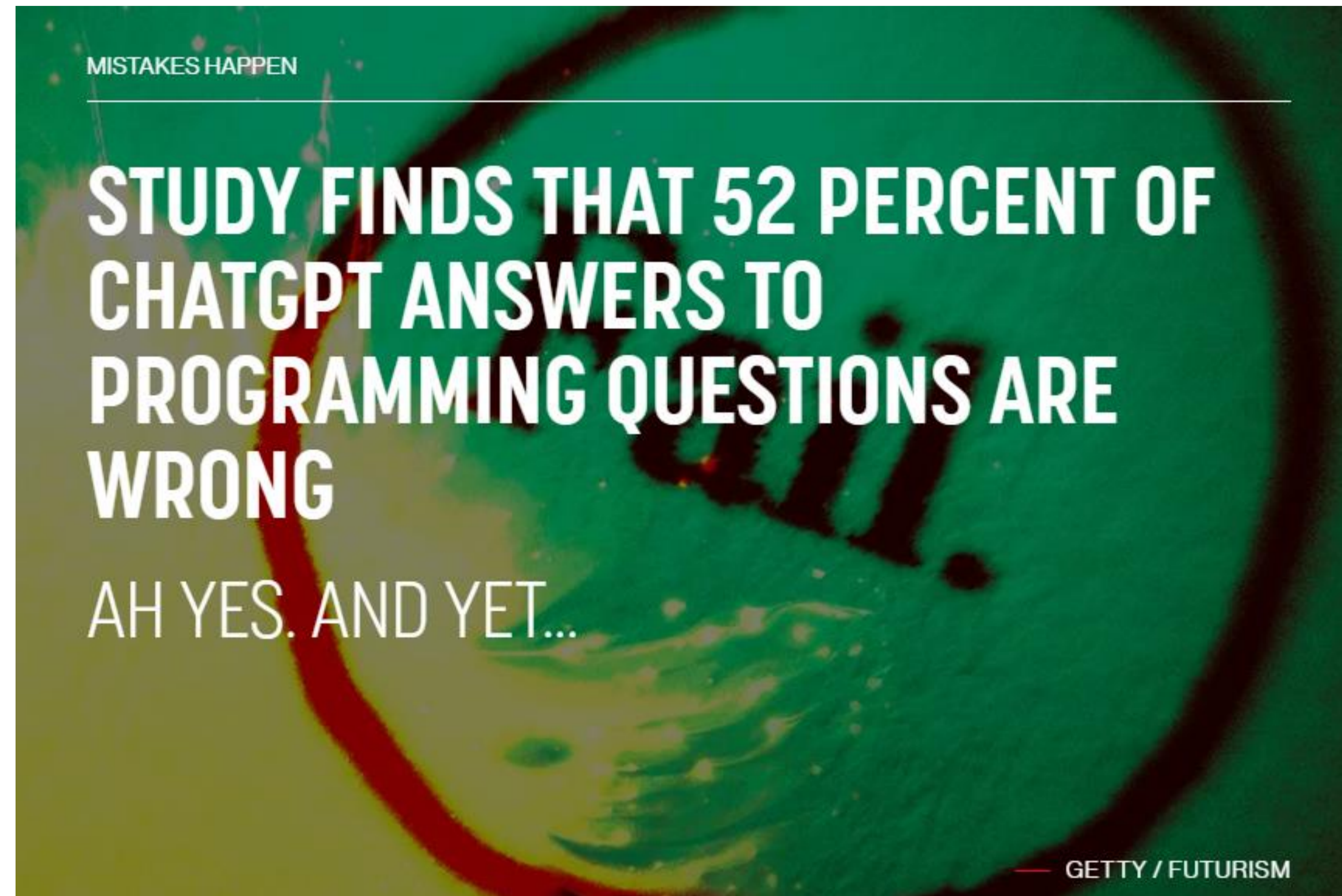
Nada reemplaza
el trabajo duro
y persistente...
Remando en
sincronismo en la
dirección correcta.



Que es inteligencia?

Que es inteligencia artificial?





A team of researchers from Purdue University presented research this month at the Computer-Human Interaction conference that shows that 52 % of programming answers generated by ChatGPT are incorrect.

“el 52 % de las respuestas de ChatGPT contienen información errónea, el 77 % de las respuestas son más detalladas que las respuestas humanas, y el 78 % por ciento de las respuestas sufren diferentes grados de inconsistencia con las respuestas humanas [...].”

Caenorhabditis elegans



1 mm

302
neurons

versus

86B
neurons

Automated, predictive, and interpretable inference of *Caenorhabditis elegans* escape dynamics

Bryan C. Daniels^a, William S. Ryu^{b,c}, and Ilya Nemenman^{d,e,f,1}

^aArizona State University–Santa Fe Institute Center for Biosocial Complex Systems, Arizona State University, Tempe, AZ 85281; ^bDepartment of Physics, University of Toronto, Toronto, ON M5S 1A7, Canada; ^cThe Donnelly Centre, University of Toronto, Toronto, ON M5S 3E1, Canada; ^dDepartment of Physics, Emory University, Atlanta, GA 30322; ^eDepartment of Biology, Emory University, Atlanta, GA 30322; and ^fInitiative in Theory and Modeling of Living Systems, Emory University, Atlanta, GA 30322

Edited by David A. Wertz, Harvard University, Cambridge, MA, and approved February 22, 2019 (received for review September 25, 2018)

The roundworm *Caenorhabditis elegans* exhibits robust escape behavior in response to rapidly rising temperature. The behavior lasts for a few seconds, shows history dependence, involves both sensory and motor systems, and is too complicated to model mechanistically using currently available knowledge. Instead we model the process phenomenologically, and we use the *Sir Isaac* dynamical inference platform to infer the model in a fully automated fashion directly from experimental data. The inferred model requires incorporation of an unobserved dynamical variable and is biologically interpretable. The model makes accurate predictions about the dynamics of the worm behavior, and it can be used to characterize the functional logic of the dynamical system underlying the escape response. This work illustrates the power of modern artificial intelligence to aid in discovery of accurate and interpretable models of complex natural systems.

dynamical systems | nociception | machine learning | phenomenological models

The quantitative biology revolution of recent decades has resulted in an unprecedented ability to measure dynamics of complex biological systems in response to perturbations with the accuracy previously reserved for inanimate, physical systems. For example, the entire escape behavior of a roundworm *Caenorhabditis elegans* in response to a noxious temperature stimulus can be measured for many seconds in hundreds of worms (1, 2). At the same time, theoretical understanding of such living dynamical systems has lagged behind, largely because, in the absence of symmetries, averaging, and small parameters to guide our intuition, building mathematical models of such complex biological processes has remained a very delicate art. Recent years have shown the emergence of automated modeling approaches, which use modern machine-learning methods to automatically infer the dynamical laws underlying a studied experimental system and predict its future dynamics (3–14). However, arguably, these methods have not yet been applied to any real experimental data with dynamics of a priori unknown structure to produce interpretable dynamical representations of the system. Thus, their ability to build not just statistical but physical models of data (15) which are interpretable by humans, answer interesting scientific questions, and guide future discovery remains unclear.

Here we apply the *Sir Isaac* platform for automated inference of dynamical equations underlying time series data to infer a model of the *C. elegans* escape response, averaged over a population of worms. We show that *Sir Isaac* is able not only to fit the observed data, but also to make predictions about the worm dynamics that extend beyond the data used for training. The inferred optimal model has an easily interpretable form, with the identified interactions and the inferred latent dynamical variable connecting naturally to known mechanisms of *C. elegans* sensorimotor control. And by analyzing the dynamical structure of the model—number of dynamic variables, number of attractors (distinct behaviors), etc.—we can generalize these results across many biophysical systems.

Results

Automated Dynamical Inference. *Sir Isaac* (7, 8) is one of the new generation of machine-learning algorithms able to infer a dynamical model of time series data, with the model expressed in terms of a system of differential equations. Compared with other approaches, *Sir Isaac* is able to infer dynamics (at least for synthetic test systems) that are (i) relatively low dimensional, (ii) have unobserved (hidden or latent) variables, (iii) have arbitrary nonlinearities, (iv) rely only on noisy measurements of the system's state variables and not of the rate of change of these variables, and (v) are expressed in terms of an interpretable system of coupled differential equations. Briefly, the algorithm sets up a complete and nested hierarchy of nonlinear dynamical models. Nestedness means that each next model in the hierarchy is more complex (in the sense of having a larger explanatory power) (16–18) than the previous one and includes it as a special case. Completeness means that any sufficiently general dynamics can be approximated arbitrarily well by some model within the hierarchy. That is, the only restriction on the dynamics is that they are continuous and do not have infinite rates of change. Two such hierarchies have been developed, one based on S systems (19) and the other on sigmoidal networks (20). Both progressively add hidden dynamical variables to the model and then couple them to the previously introduced variables using nonlinear interactions of specific forms. *Sir Isaac* then uses a semianalytical formulation

Significance

The cost of an empirical bit in biophysics has fallen dramatically, and high-precision data are now abundant. However, biological systems are notoriously complex, multiscale, and inhomogeneous, so that we often lack intuition for transforming such measurements into theoretical frameworks. Modern machine learning can be used as an aid. Here we apply our *Sir Isaac* platform for automatic inference of a model of the escape response behavior in a roundworm directly from time series data. The automatically constructed model is more accurate than that curated manually, is biophysically interpretable, and makes nontrivial predictions about the system.

Author contributions: I.N. coordinated the project; B.C.D., W.S.R., and I.N. designed research; B.C.D. wrote the software; B.C.D., W.S.R., and I.N. performed research; W.S.R. collected experimental data; B.C.D., W.S.R., and I.N. analyzed data; and B.C.D., W.S.R., and I.N. wrote the paper.

The authors declare no conflict of interest.

This article is a PNAS Direct Submission.

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Data deposition: Data related to this work have been deposited on figshare (https://figshare.com/articles/Data_and_Code_Archive_for_Automated_predictive_and_interpretable_inference_of_C_elegans_escape_dynamics/7806602). The developed software is available on GitHub (<https://github.com/EmoryUniversity/TheoreticalBiophysics/SirIsaac>).

¹To whom correspondence should be addressed. Email: iya.nemenman@emory.edu.

This article contains supporting information online at www.pnas.org/lookup/suppl/doi:10.1073/pnas.1816531116/-DCSupplemental.

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La ecuación de la inteligencia...

$$F = T \nabla S_{\tau}$$

"La inteligencia es una fuerza, F , que actúa para maximizar la futura libertad de acción. Ella actúa para maximizar la libertad de acción futura, o mantener abiertas las opciones, con cierta fuerza T , con la diversidad de posibles futuros accesibles, S , hasta algún horizonte de tiempo futuro, τ . En definitiva, a la inteligencia no le gusta quedarse atrapada". | Alexander Wissner-Gross

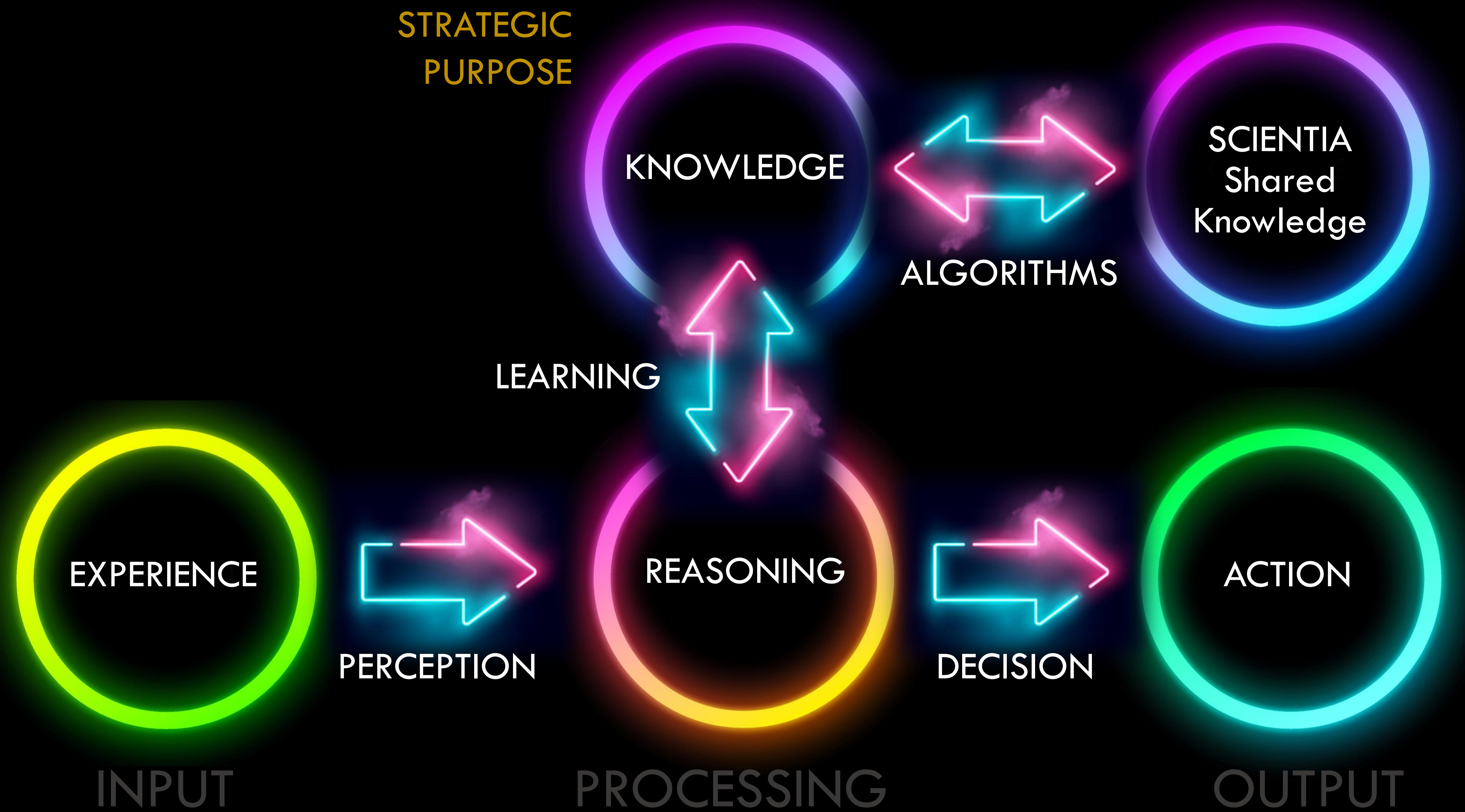
LISTEN.

THINK.

SOLVE.®

Rockwell
Automation

Didácticamente...



Los algoritmos
son formas
estructuradas
de compartir
y acumular
conocimiento



Si estamos tan preocupados
por usar la inteligencia,
comencemos del inicio...

Utilizando la inteligencia
para crear la organización
y su cultura...

... definiendo propósitos claros, estrategias,
planificación, definiendo y modelando procesos,
invitando a las personas adecuadas,
trabajando con información confiable,
y herramientas modernas.

... definiendo propósitos claros, estrategias,
planificación, definiendo y modelando procesos,
invitando a las personas adecuadas,
trabajando con información confiable,
y herramientas modernas.

... en esta orden!

Por toda la jornada hay espacio
para más inteligencia...

Por toda la jornada hay espacio
para más inteligencia...

... o INTELIGENCIA AUMENTADA

Parte 2

Algunas Respuestas



Algunas cuestiones importantes...



Algunas cuestiones importantes...

... acomodando la innovación continua

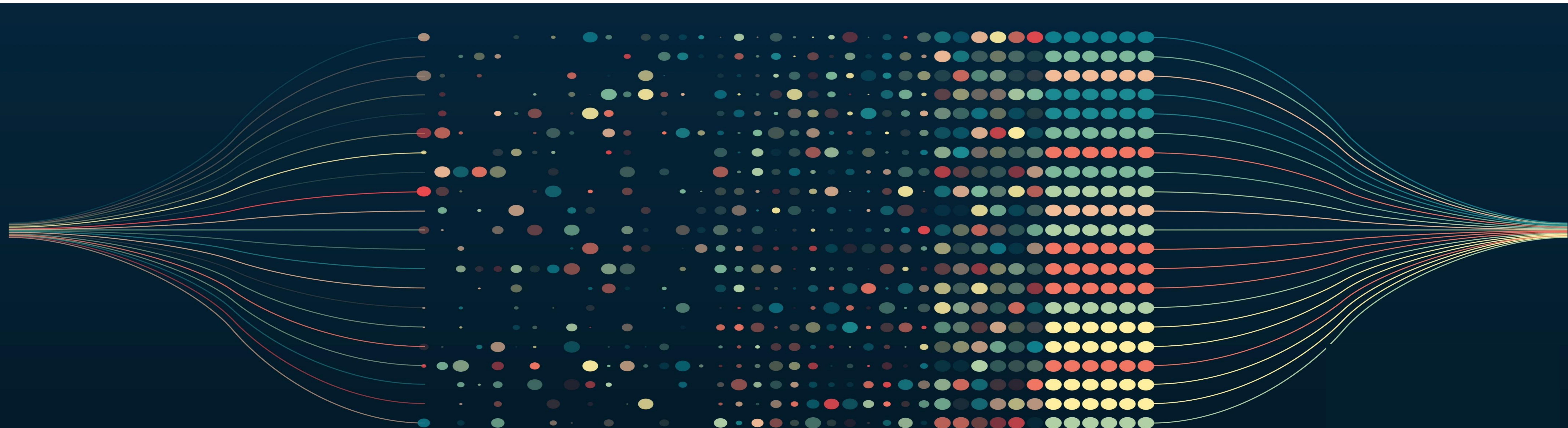
Como aprovechar el *momentum* de la AI?

Como decidir en un escenario tan complejo y volátil?

Como integrar soluciones y áreas en la misma arquitectura?

La solución para el sistema de ecuaciones
propuesto también está en la...

INTELIGENCIA



Quién tiene
las respuestas
para vuestras
necesidades?



EmTech
DIGITAL



Microsoft

McKinsey
& Company

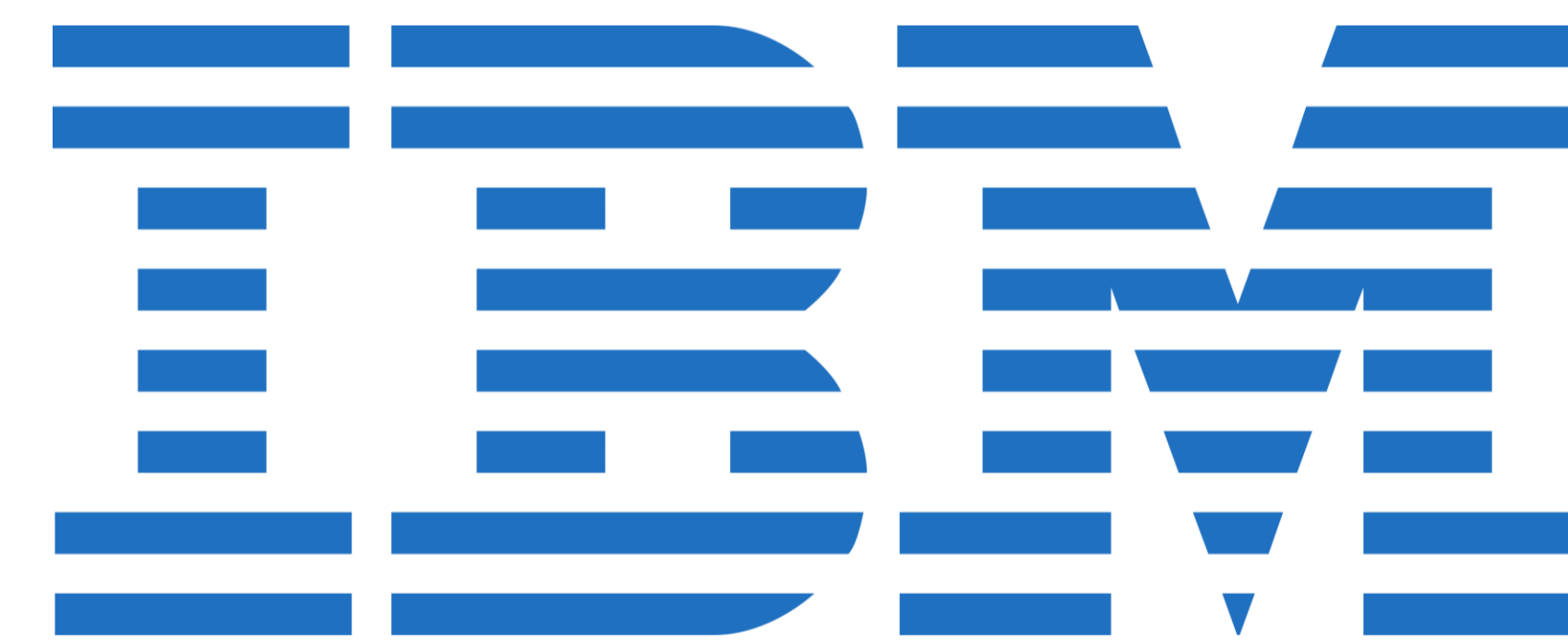
Deloitte

natureTech



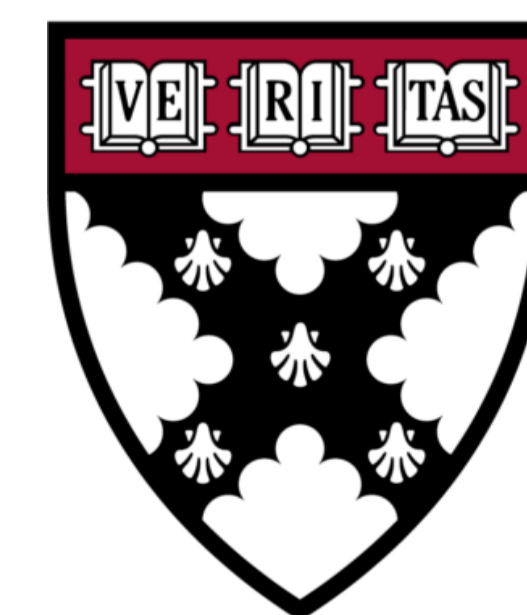
OSIsoft®

Gartner®



AVEVA

ORACLE



**Harvard
Business
School**



**MIT
MANAGEMENT
SLOAN SCHOOL**

Quién tiene las respuestas para vuestras necesidades?



Quién tiene
las respuestas
para vuestras
necesidades?

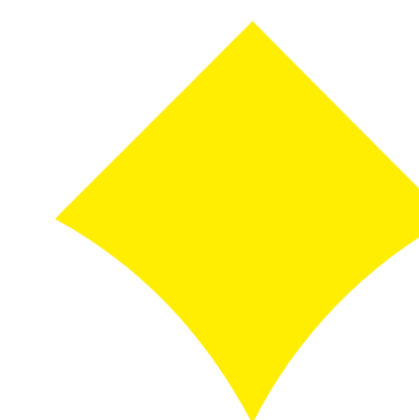
Honeywell

SIEMENS

**Rockwell
Automation**

Schneider
Electric

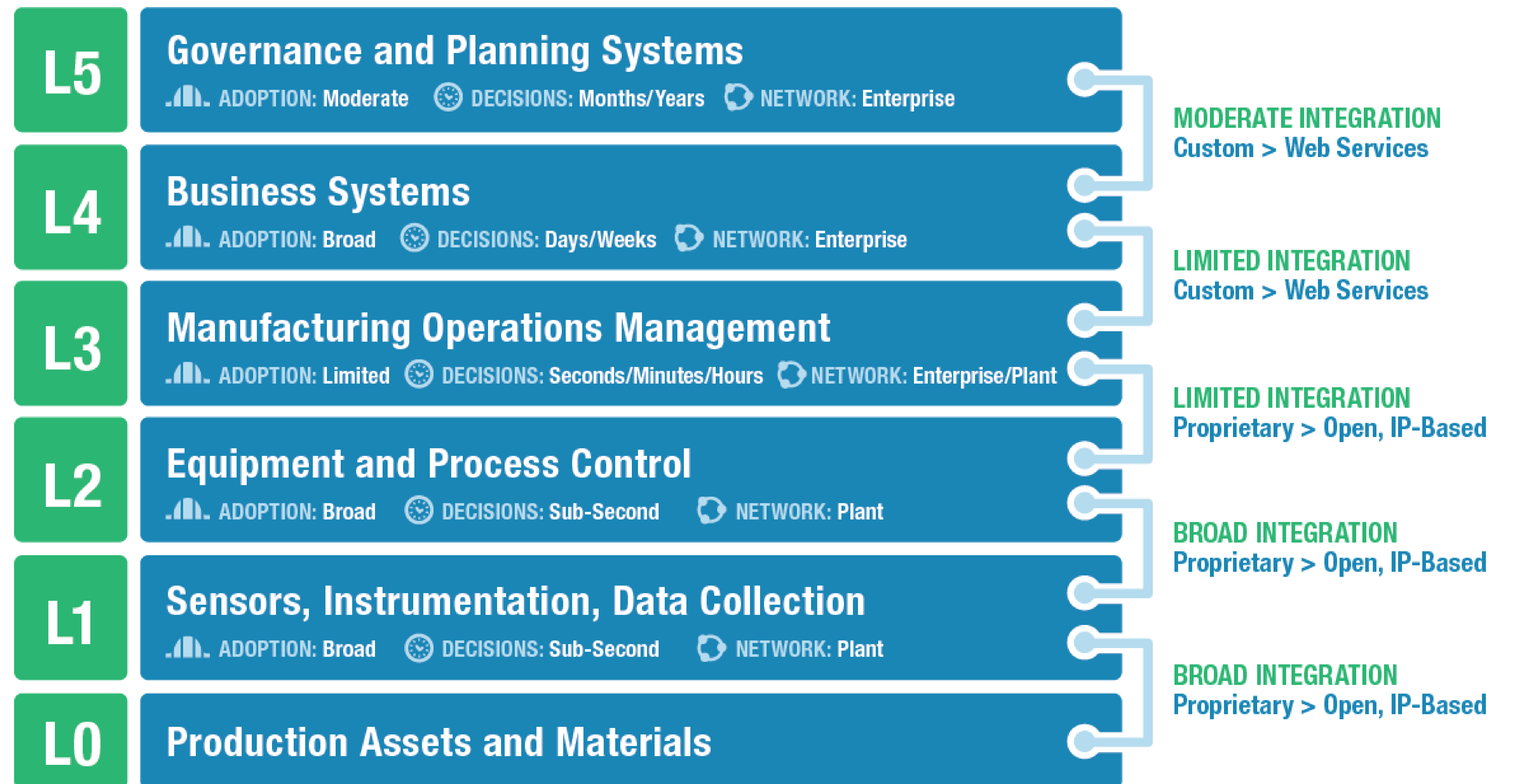
YOKOGAWA



EMERSON

Quién tiene
las respuestas
para vuestras
necesidades?
Sino usted?

 ANSI/ISA-95



2001, revisada continuamente, e ao presente



**El Plan
Maestro
indicará el
rumbo...**

Consideraciones inteligentes en las capas L1 y L2

BPM

Normas

PM+5

TMO

L6X



Consideraciones inteligentes en las capas L1 y L2

Optimice antes

Siga las Normas

Plano Maestro +5

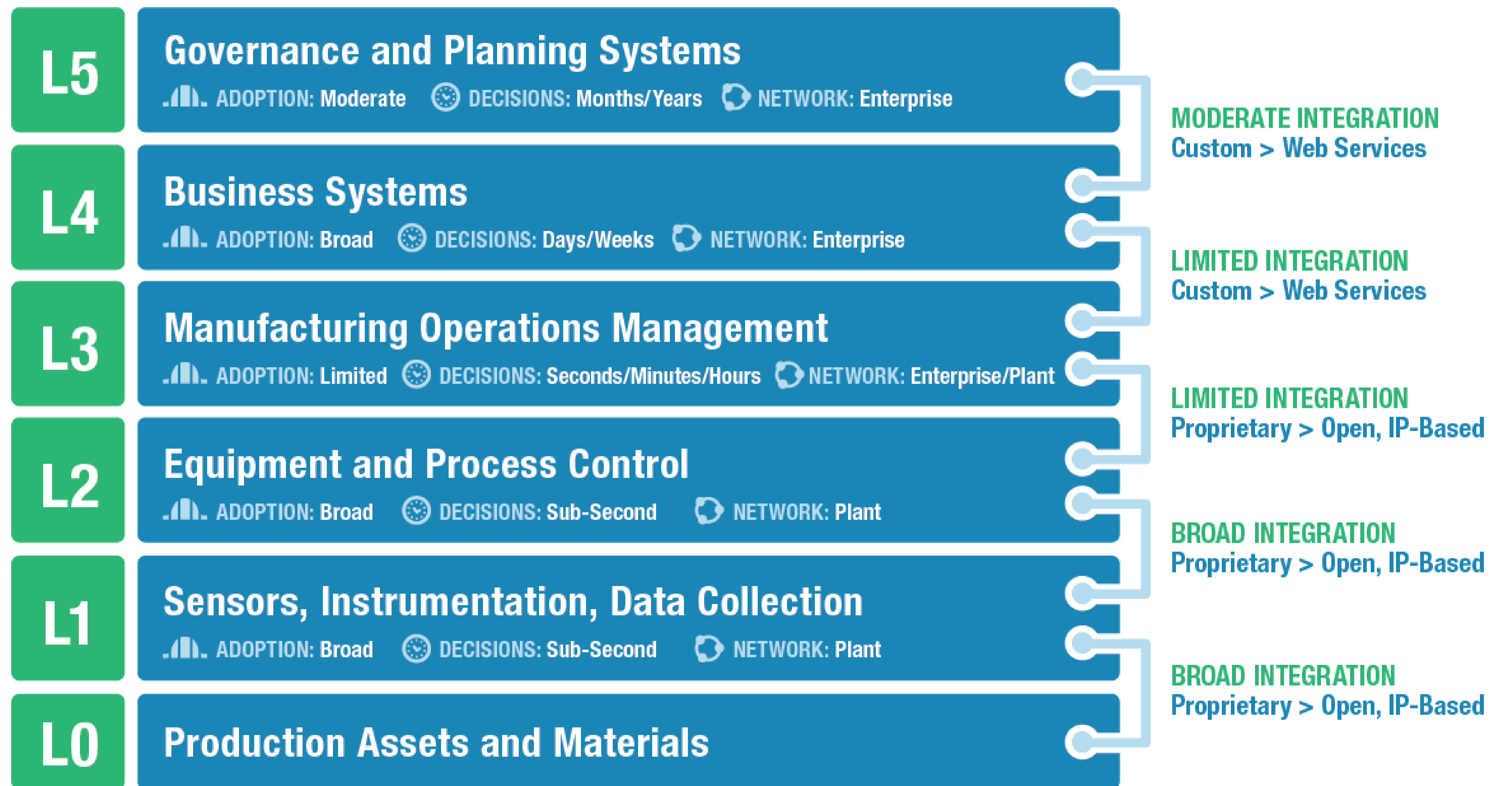
Equipo Multidisciplinar

Liderazgo 6X



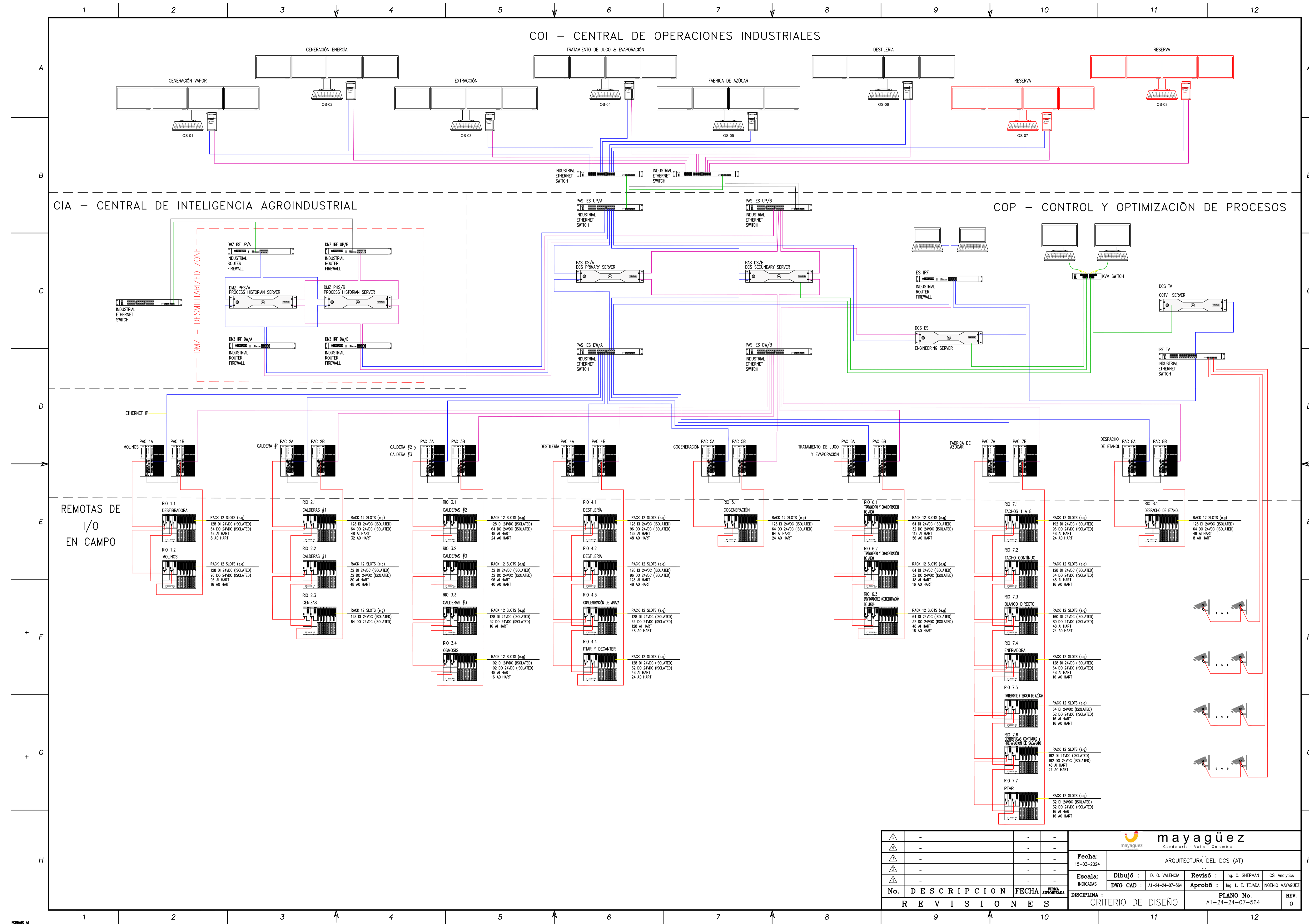
Quién tiene
las respuestas
para vuestras
necesidades?
Sino usted?


ISA ANSI/ISA-95



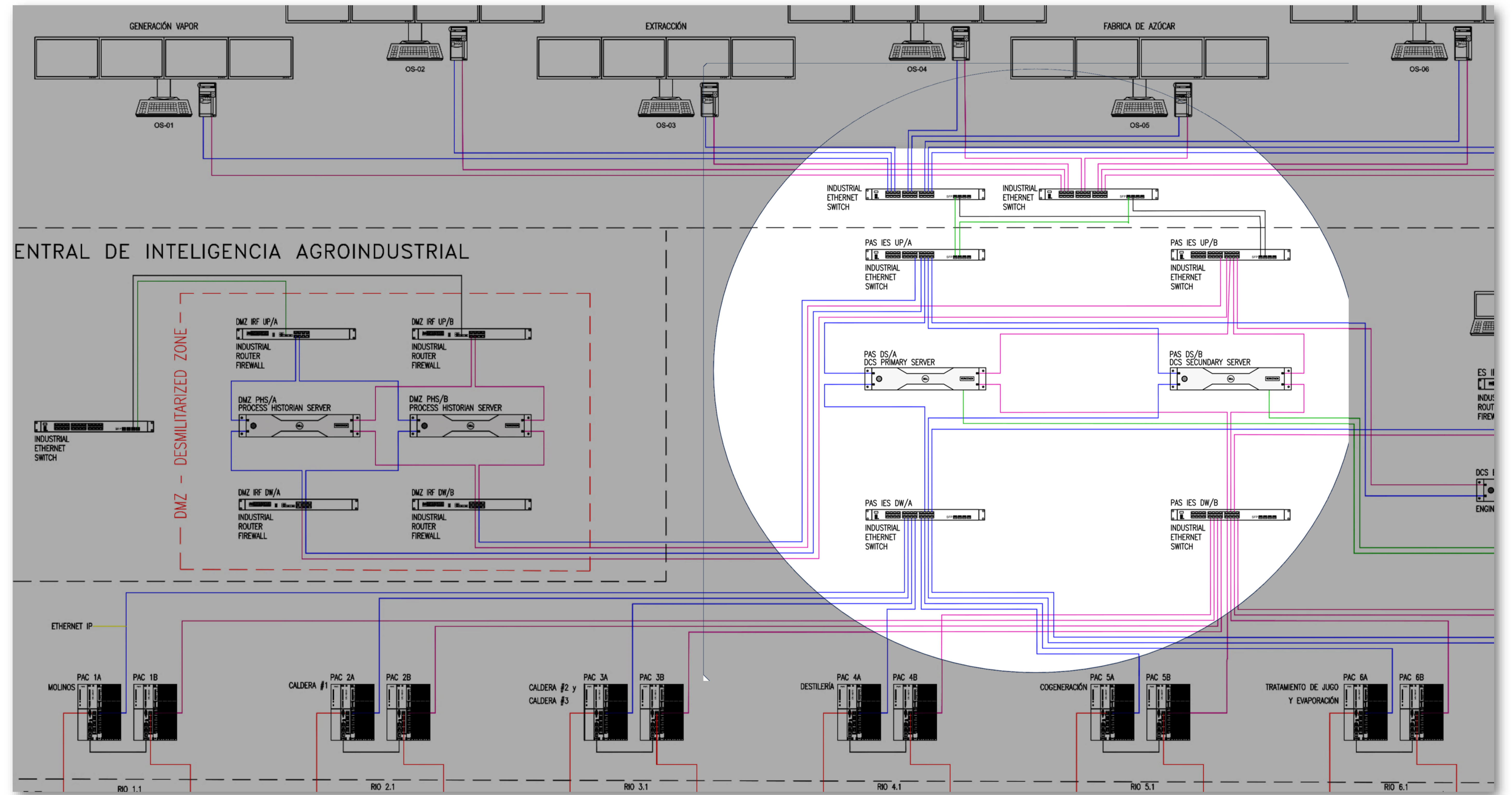
2001, revisada continuamente, e ao presente

DCS ISA-95 L2



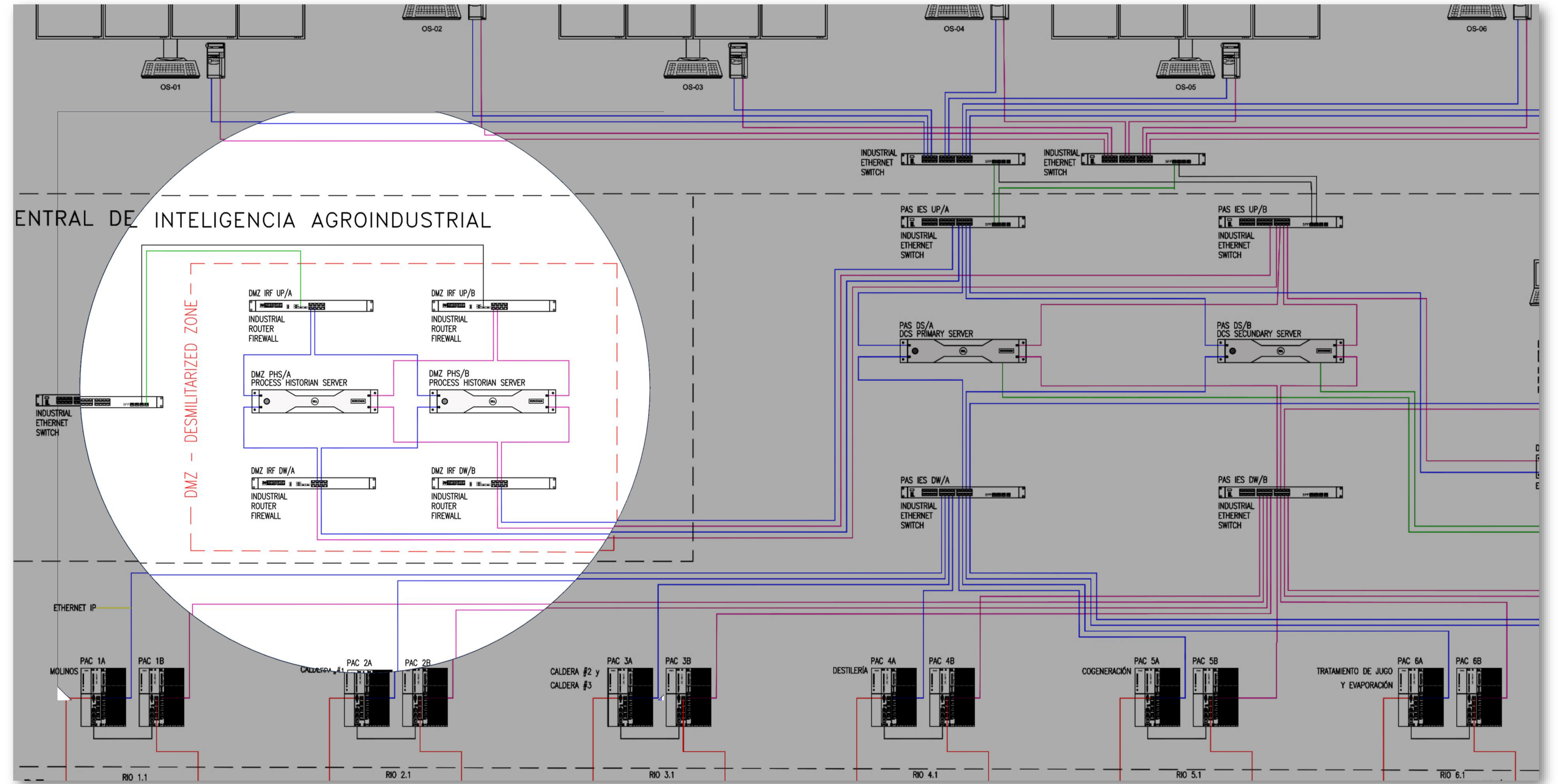
	
Fecha: 15-03-2024 Arquitectura: DEL DCS (AT)	
Escala: Dibujó : D. G. VALENCIA INDICADAS : DWG CAD : A1-24-24-07-564	Revisó: Ing. C. SHERMAN Aprobó: Ing. L. E. TEJADA INGENIERO MAYAGÜEZ
No. DESCRIPCIÓN FECHA FIRMA AUTORIZADA	PLANO No. REV. 0
REVISIONES DISCIPLINA : CRITERIO DE DISEÑO A1-24-24-07-564	

FTE Fault Tolerant Ethernet IP



DMZ

Demilitarized Zone



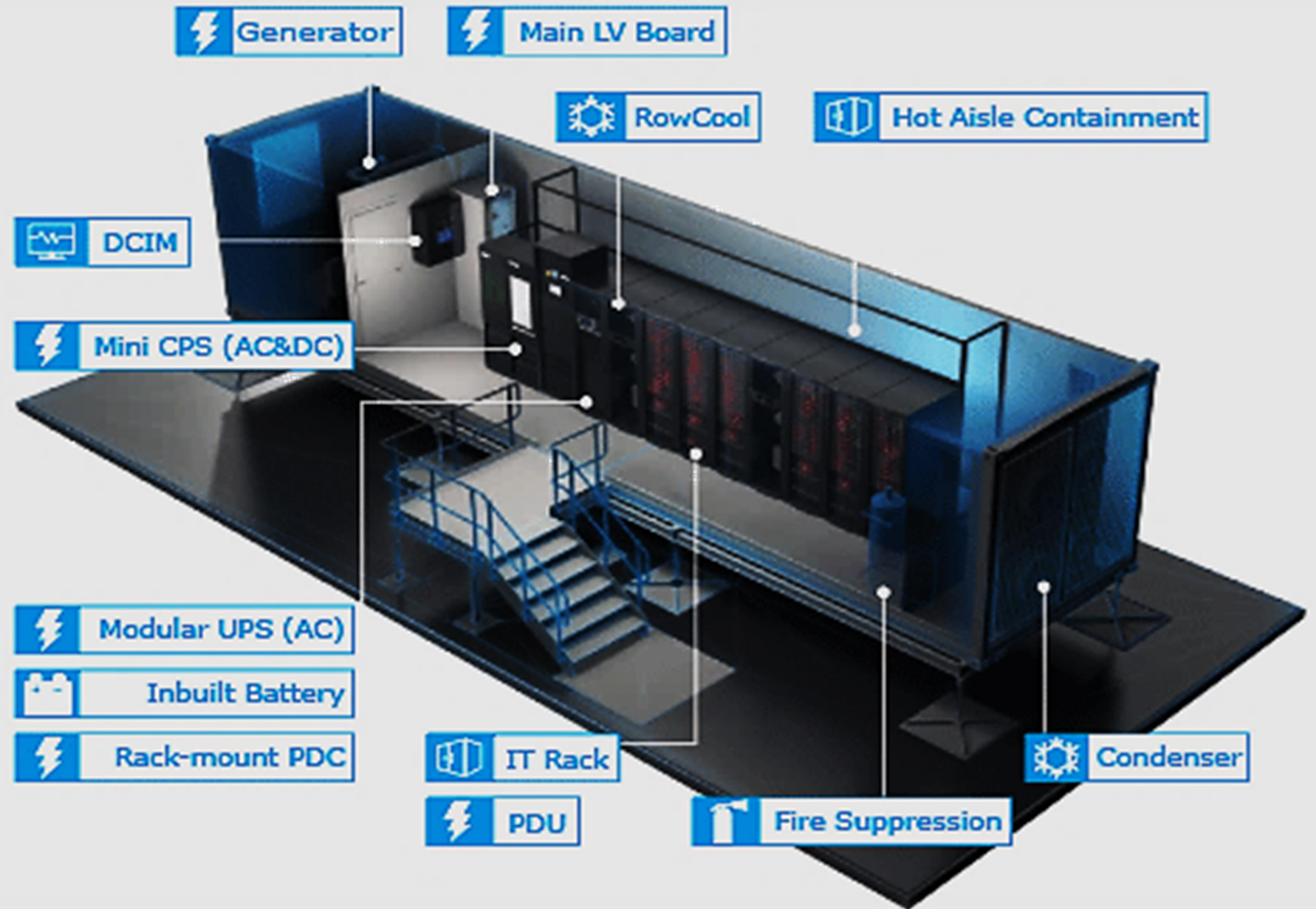
DATA CENTER Shelter + HVAC & UPS Systems



DATA CENTER Shelter + HVAC & UPS Systems

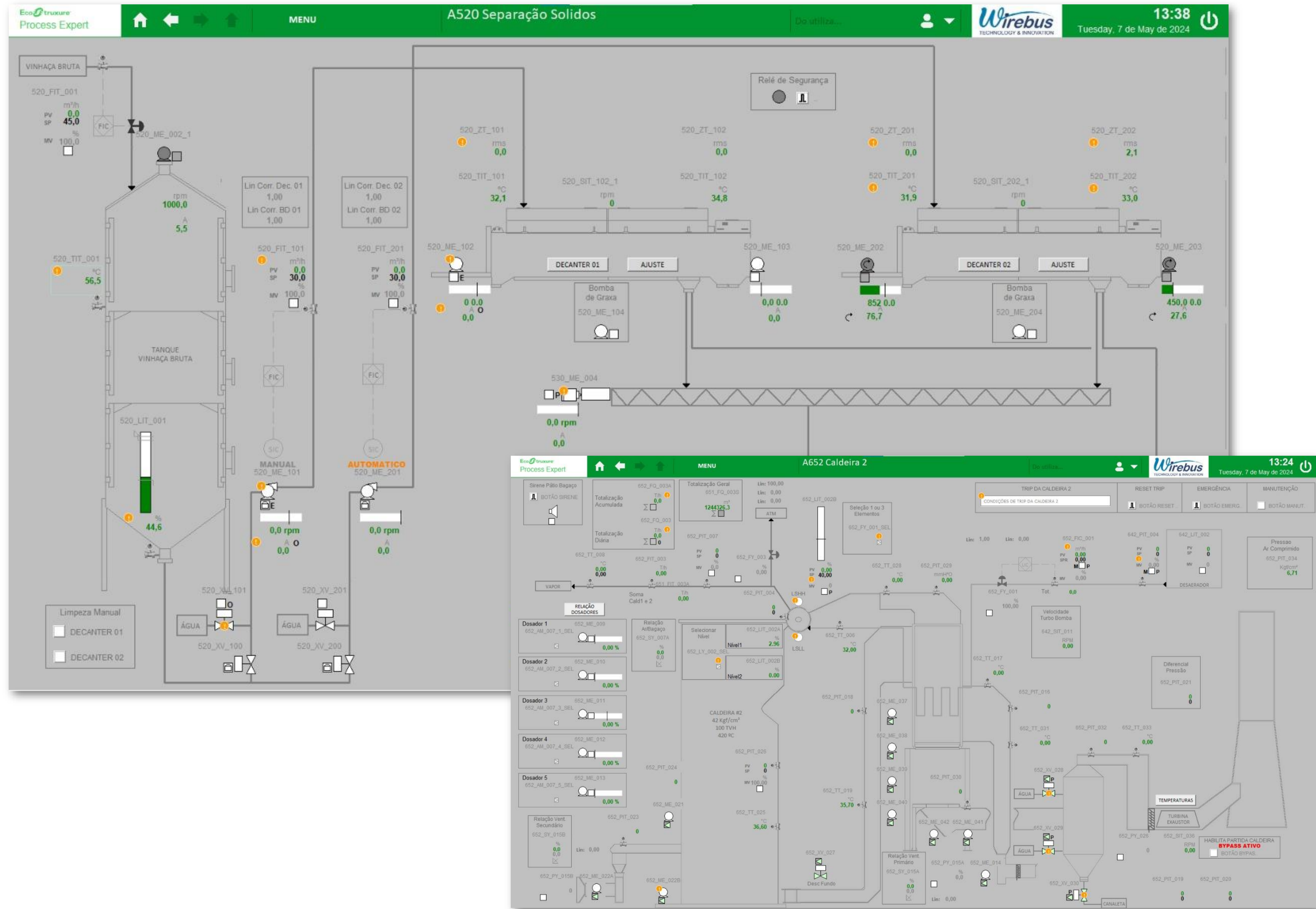


RIO Shelter + HVAC & UPS Systems



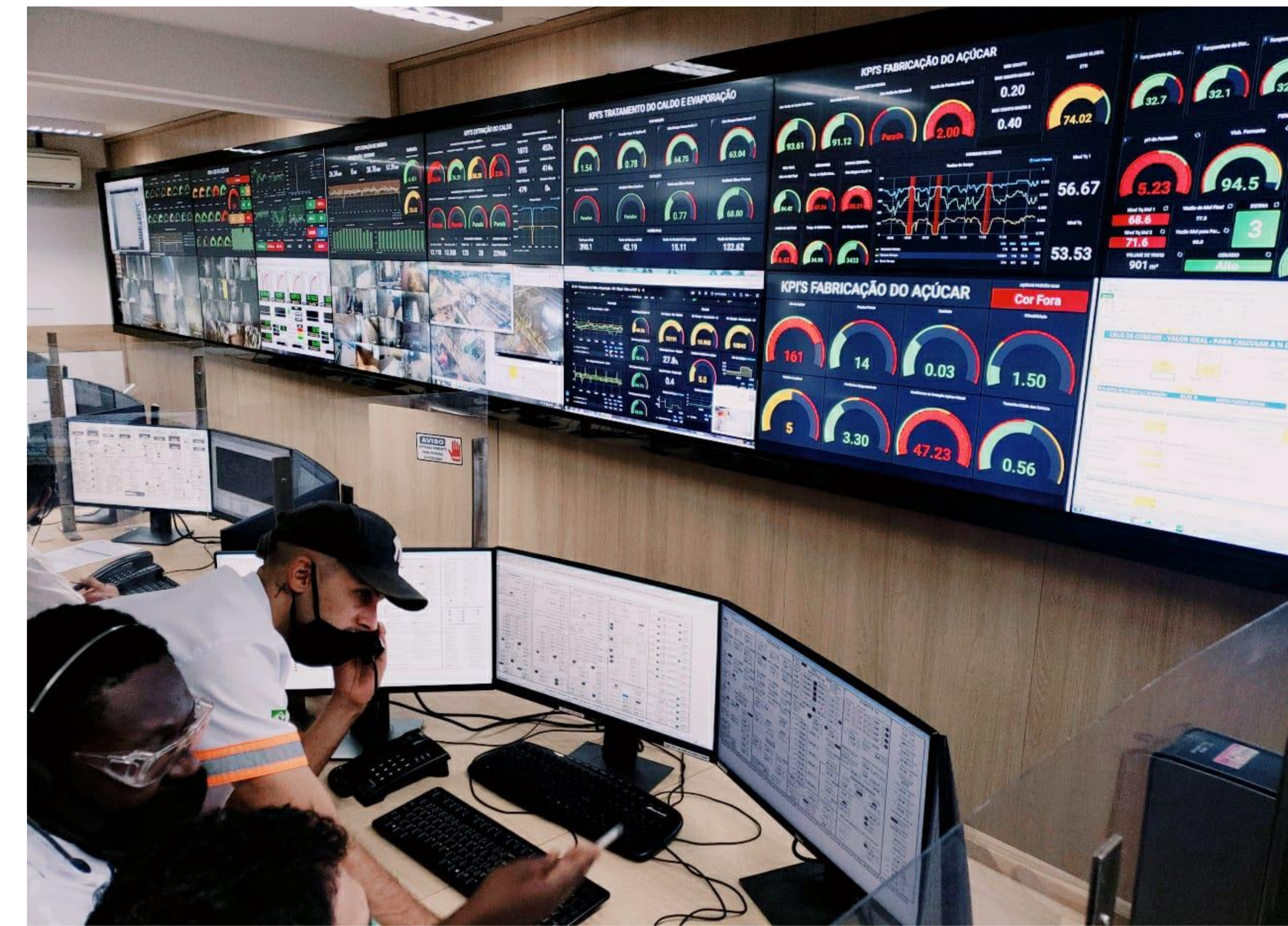
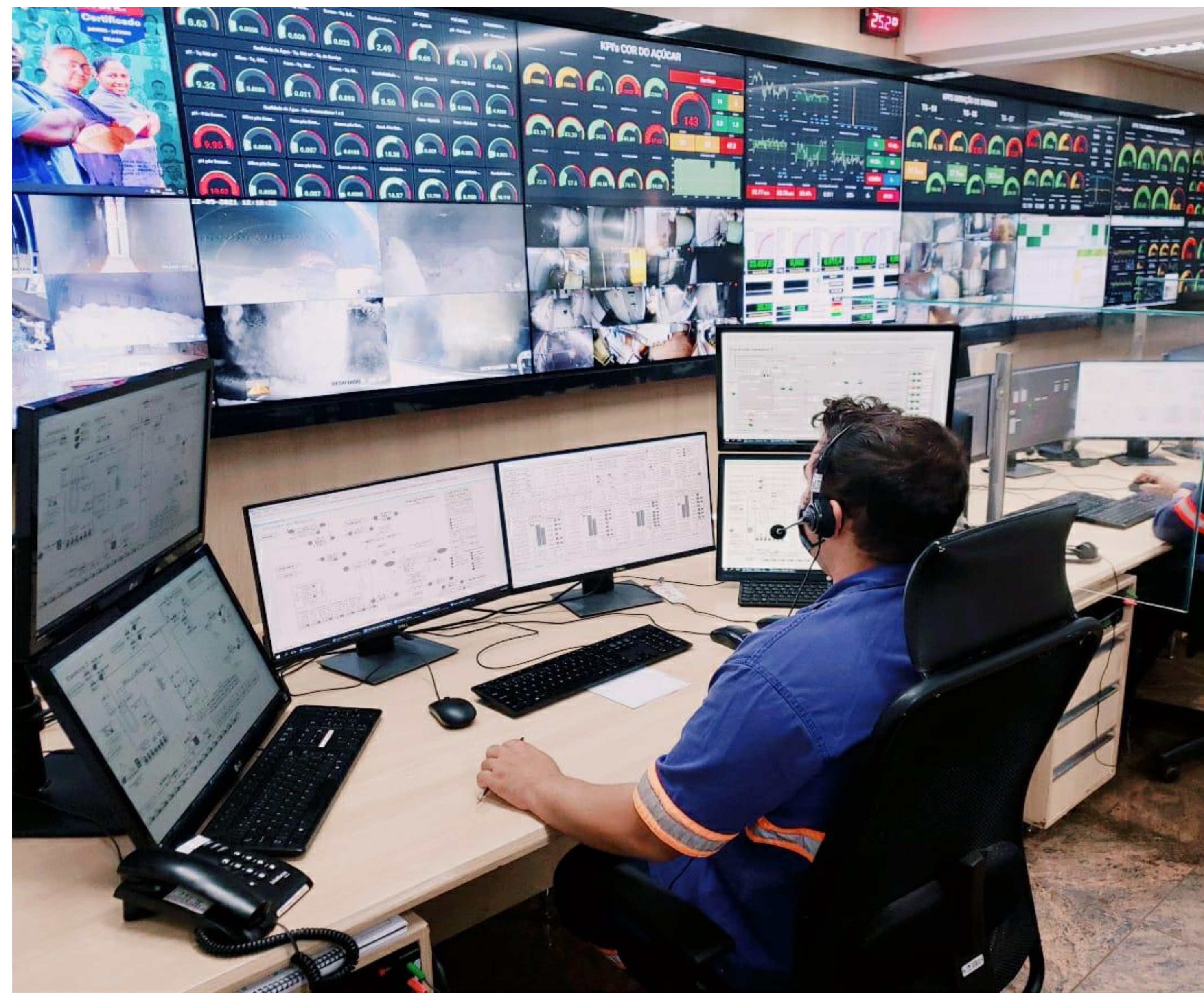
En 1994, nombré COI al Centro de Control de la Planta Equipav en Brasil, hoy perteneciente al grupo Renuka... y el término se extendió por todo el sector sucroenergético y de biocombustibles en Brasil...

ISA-101



COI

Central de Operaciones Industriales




ALTA MOGIANA
açúcar • etanol • energia

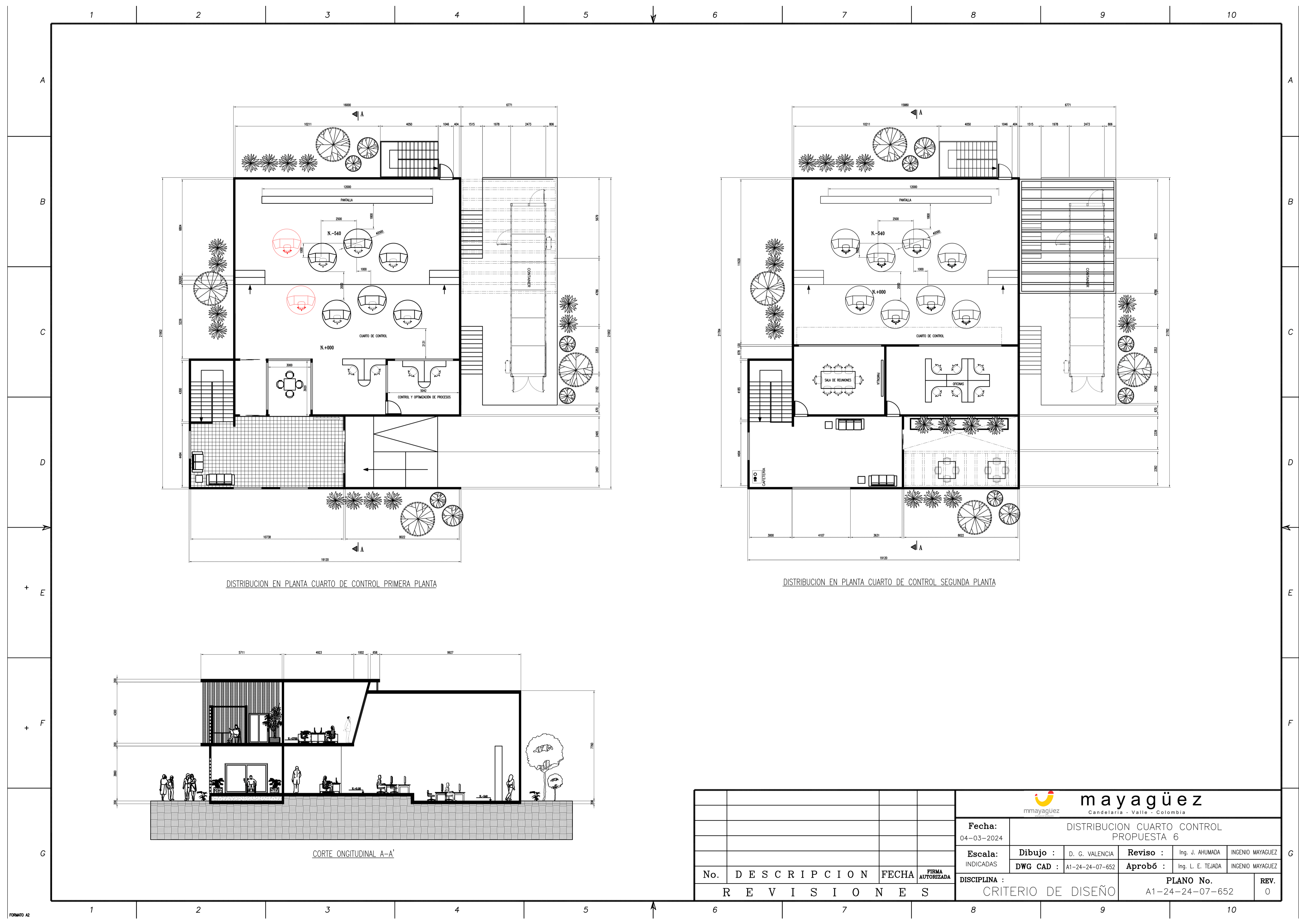
En 2020, nombré CIA a la
Central de Inteligencia Agroindustrial
en la Planta PAGRISA
y que también produce
etanol de maíz...

CIA

Central de Inteligencia Agroindustrial



Gestión integrada, humana, e inteligente



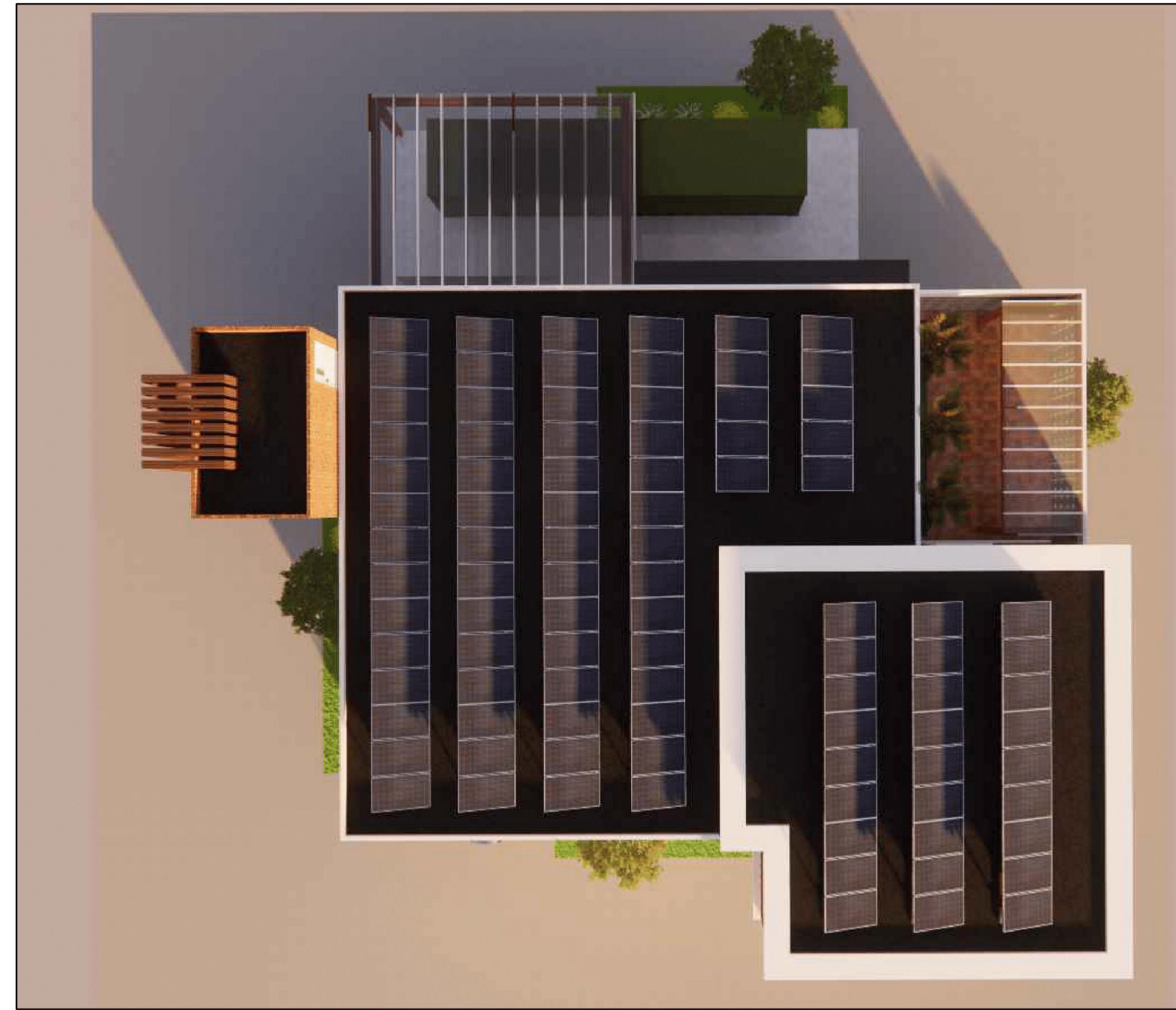
				 <small>Candelaria - Valle - Colombia</small>	
		Fecha: 04-03-2024		DISTRIBUCION CUARTO CONTROL PROPUESTA 6	
		Escala: INDICADAS		Dibujo : D. G. VALENCIA Reviso : Ing. J. AHUMADA INGENIO MAYAGUEZ DWG CAD : A1-24-24-07-652 Aprobó : Ing. L. E. TEJADA INGENIO MAYAGUEZ	
		No. DESCRIPCION FECHA		DISCIPLINA :	
		REVISIONES		PLANO No. A1-24-24-07-652 REV. 0	
				CRITERIO DE DISEÑO	

Central de Operaciones Industriales



COI

Central de Operaciones Industriales



PLANTA GENERAL




FACHADA FRONTAL



FACHADA LATERAL IZQUIERDO ESQUINERA



FACHADA LATERAL IZQUIERDA

				 mayagüez <small>Candelaria - Valle - Colombia</small>			
		Fecha:		DISTRIBUCION CUARTO CONTROL			
		04-03-2024		PROPUESTA 6			
		Escala:		Dibujo :		Reviso :	
		INDICADAS		D. G. VALENCIA		Ing. J. AHUMADA	
		DWG CAD :		A1-24-24-07-653		INGENIO MAYAGUEZ	
		FIRMA AUTORIZADA		Aprobó :		Ing. L. E. TEJADA	
				DISCIPLINA :		INGENIO MAYAGUEZ	
				CRITERIO DE DISEÑO		PLANO No.	
						A1-24-24-07-653	
						REV.	
						0	

R E V I S I O N E S

CRITERIO DE DISEÑO

PLANO No. A1-24-24-07-653

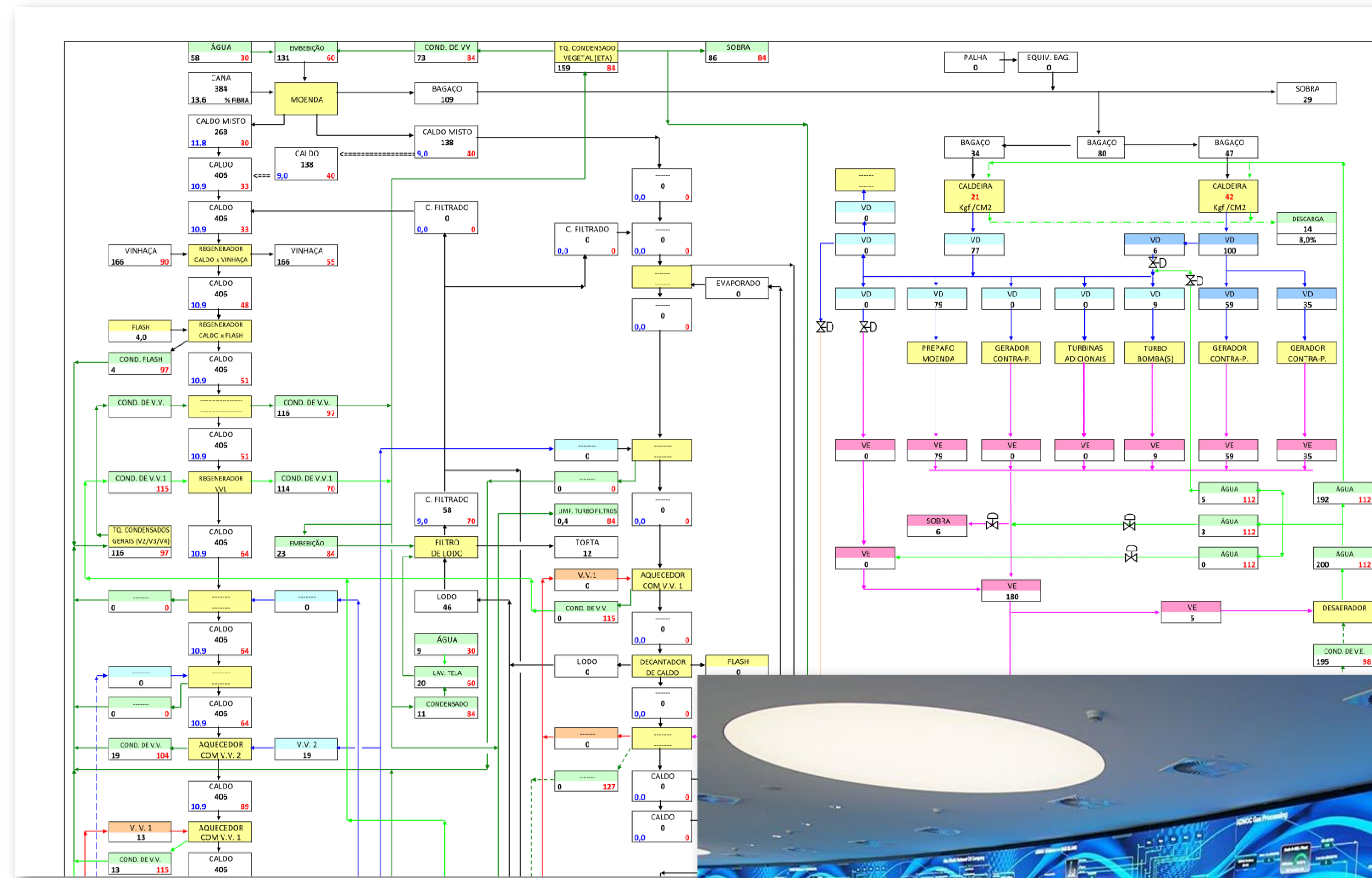
REV. 0

COI

Central de Operaciones Industriales



Balance de Masa, Energía, e Hídrico, en línea...



أدنوك
ADNOC



Online Process Balance



TMO Team

DHO

PMO

Industria

Campo


E&A

IT

Contraloría

Calidad





TMO Actions

Grupo de Trabajo Multidisciplinario

Inversiones en Proceso y Tecnología

BPM – Business Process Modeling

DCS – Distributed Control System

MDM – Master Data Management

EPM – Enterprise Performance Management

Evidence Based Enterprise

Data Warehouse & Analytics

Metáfora del Avión



La compañía debe progresar, innovar, cambiar, hacer mantenimiento, y evolucionar...

... mientras **“volamos en ella”!**

FLYING BY INSTRUMENTS



Necesitamos de ...

Un Plan de Vuelo,
Un Propósito Claro,
Confiar en la tripulación,
Confiar en los instrumentos,
Confiar en los datos ...



Los datos emergen
de los procesos

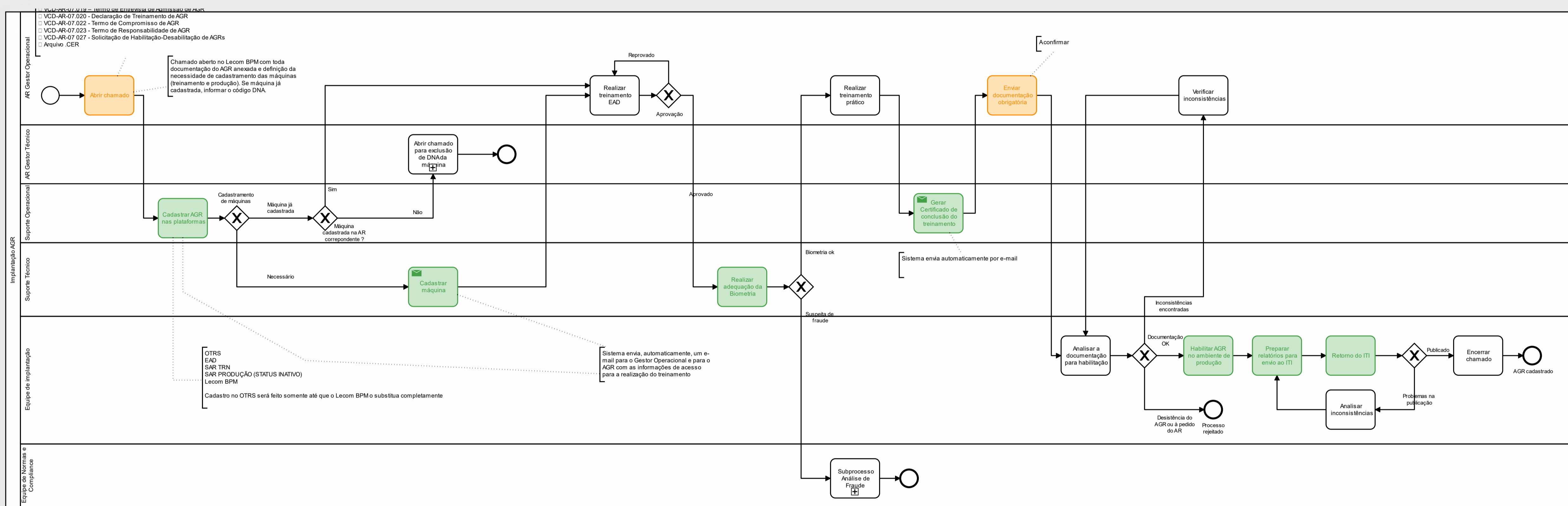
BPM²
BUSINESS
PROCESS
MODELING &
MANAGEMENT

BPM | Business Process Modeling

Una visión cuantitativa
basada en datos de cómo se
realiza realmente el trabajo
dentro de una organización

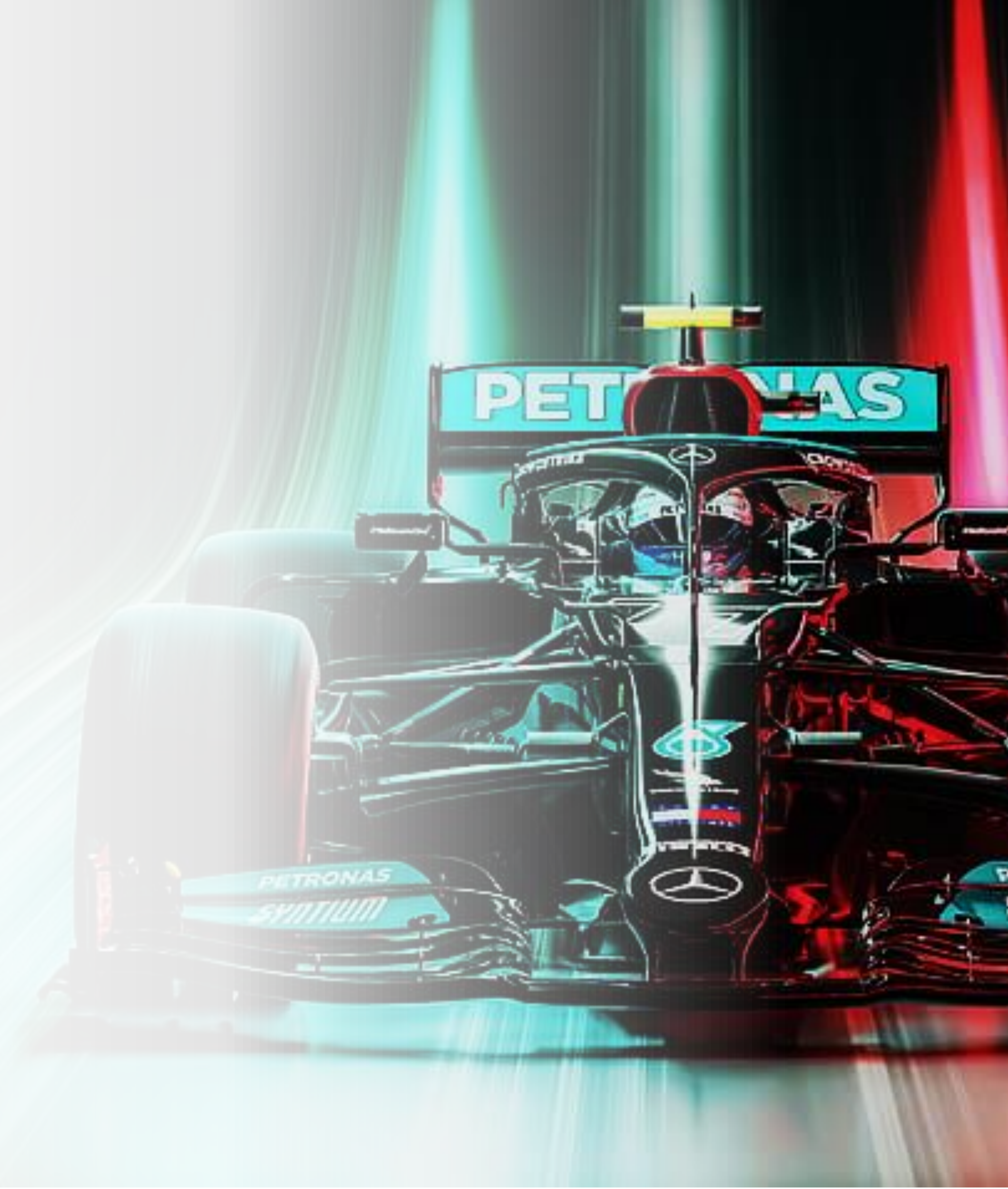
BPM | Business Process Modeling

Procesos optimizados

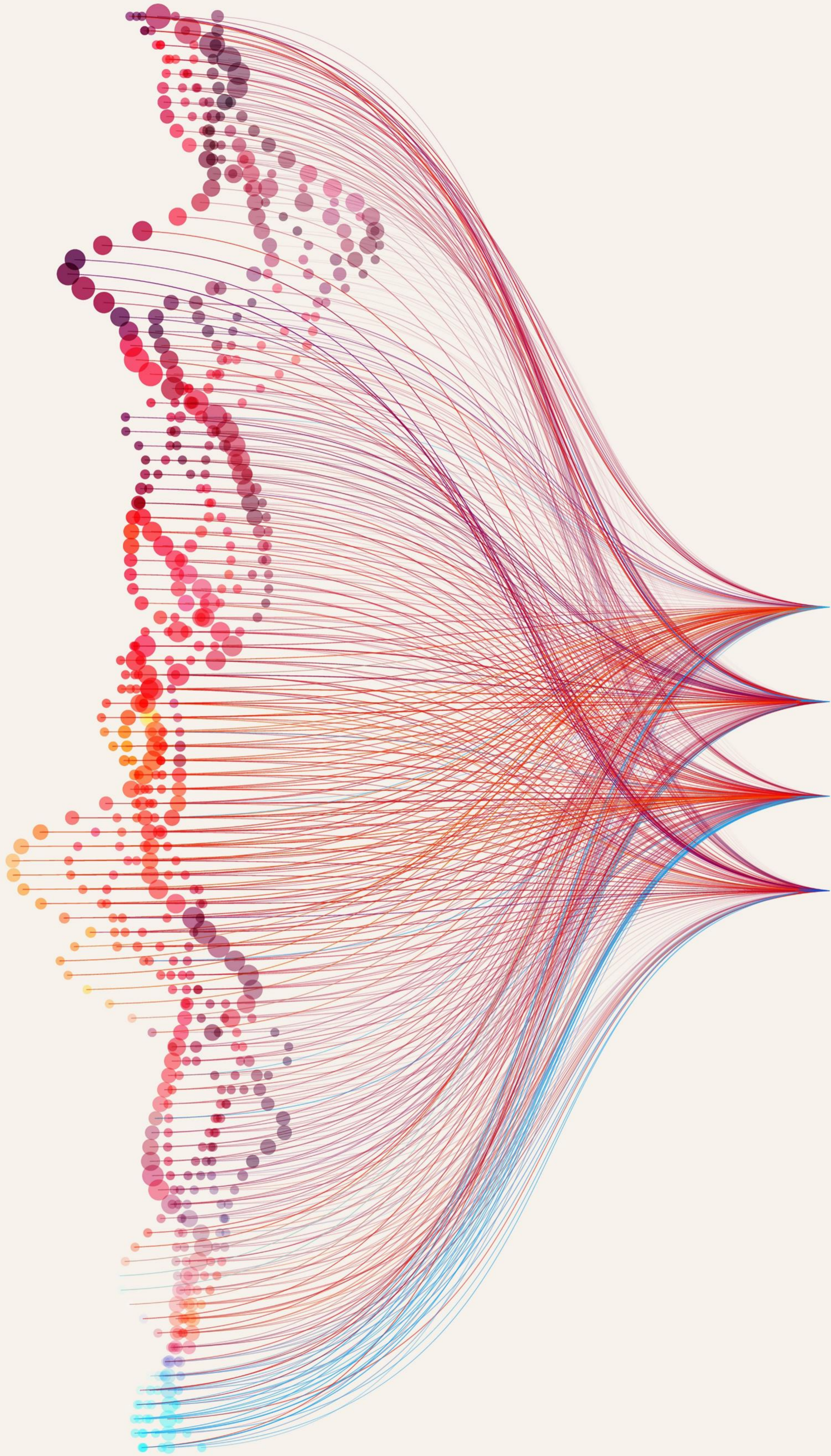


Las métricas brotan del trabajo de BPM, y serán utilizadas para medir el desempeño...

EPM
ENTERPRISE
PERFORMANCE
MANAGEMENT



ender



EVIDENCE-BASED

ENTERPRISE

Data-Centric &
Event-Sensitive

DATA
GOVERNANCE
| **MDM** - MASTER DATA
MANAGEMENT

Apagamos
las luces y
confiamos
en los datos



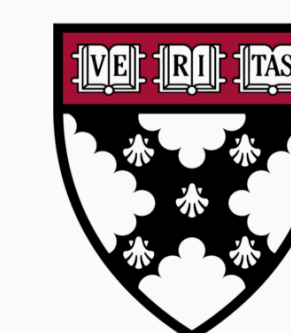
DATA = TRUTH

The authoritative source of truth



Framework

Evolución Inteligente



Harvard Business School

Harvard Business School Alumni

Harvard Business Review

An aerial photograph of a large, irregularly shaped lake surrounded by a dense, lush green forest. The water in the lake is a deep blue, with some lily pads visible. The text "DATA FEDERATION" is overlaid in the center of the lake in a large, white, bold, sans-serif font.

DATA FEDERATION

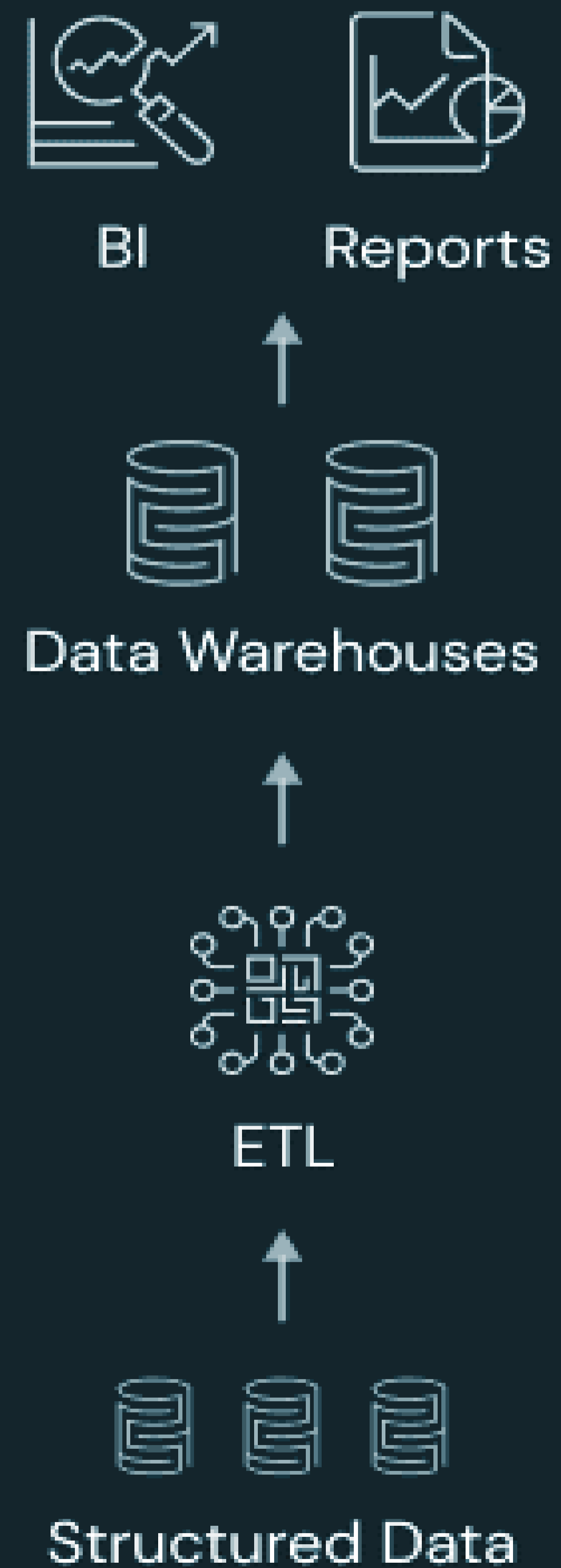
EVIDENCE-BASED ENTERPRISE

data-centric

Data Governance
MDM - Master Data Management
Understanding DaaP (Data-as-a-Product)

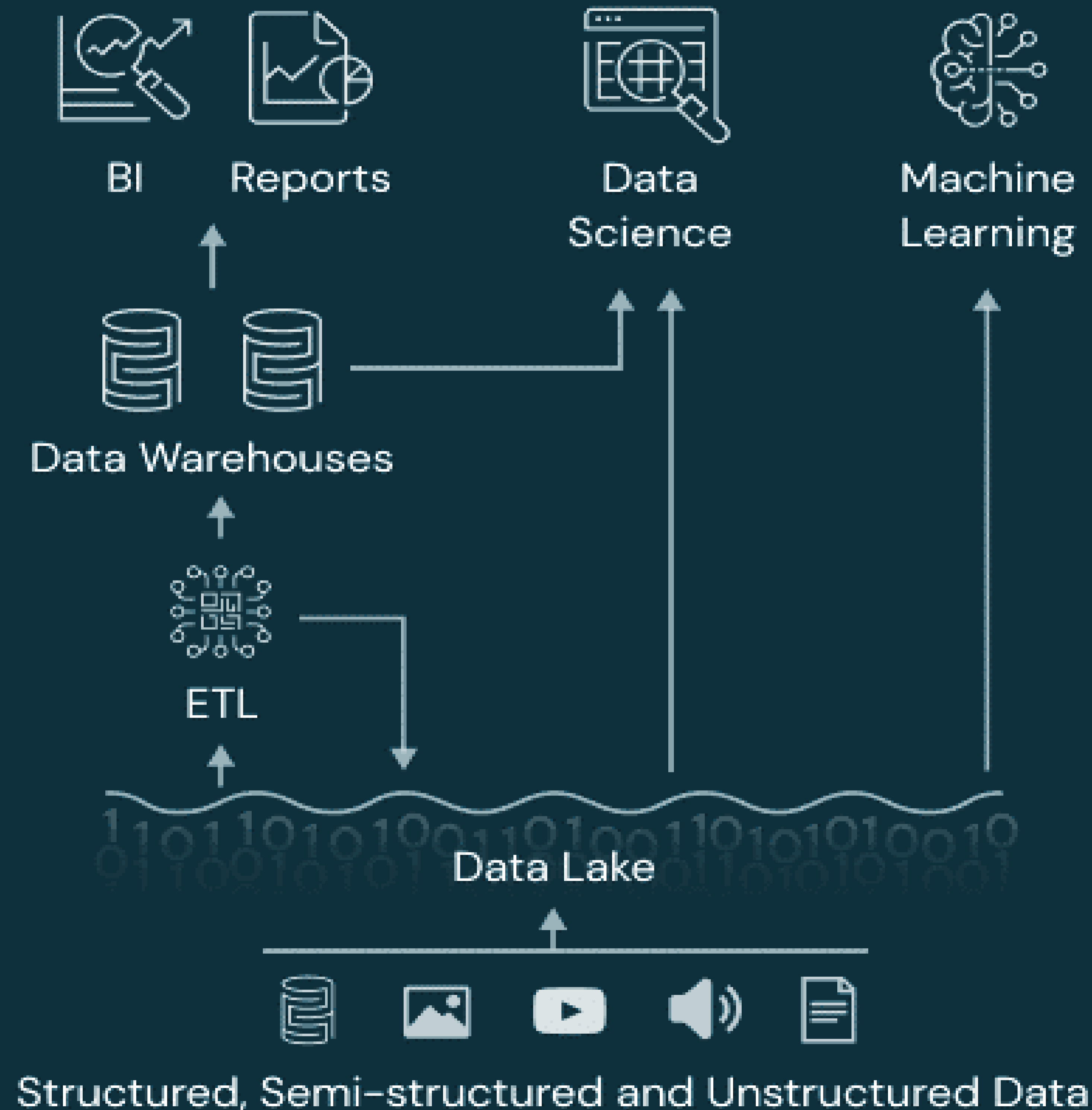
1990-2000

Data Warehouse



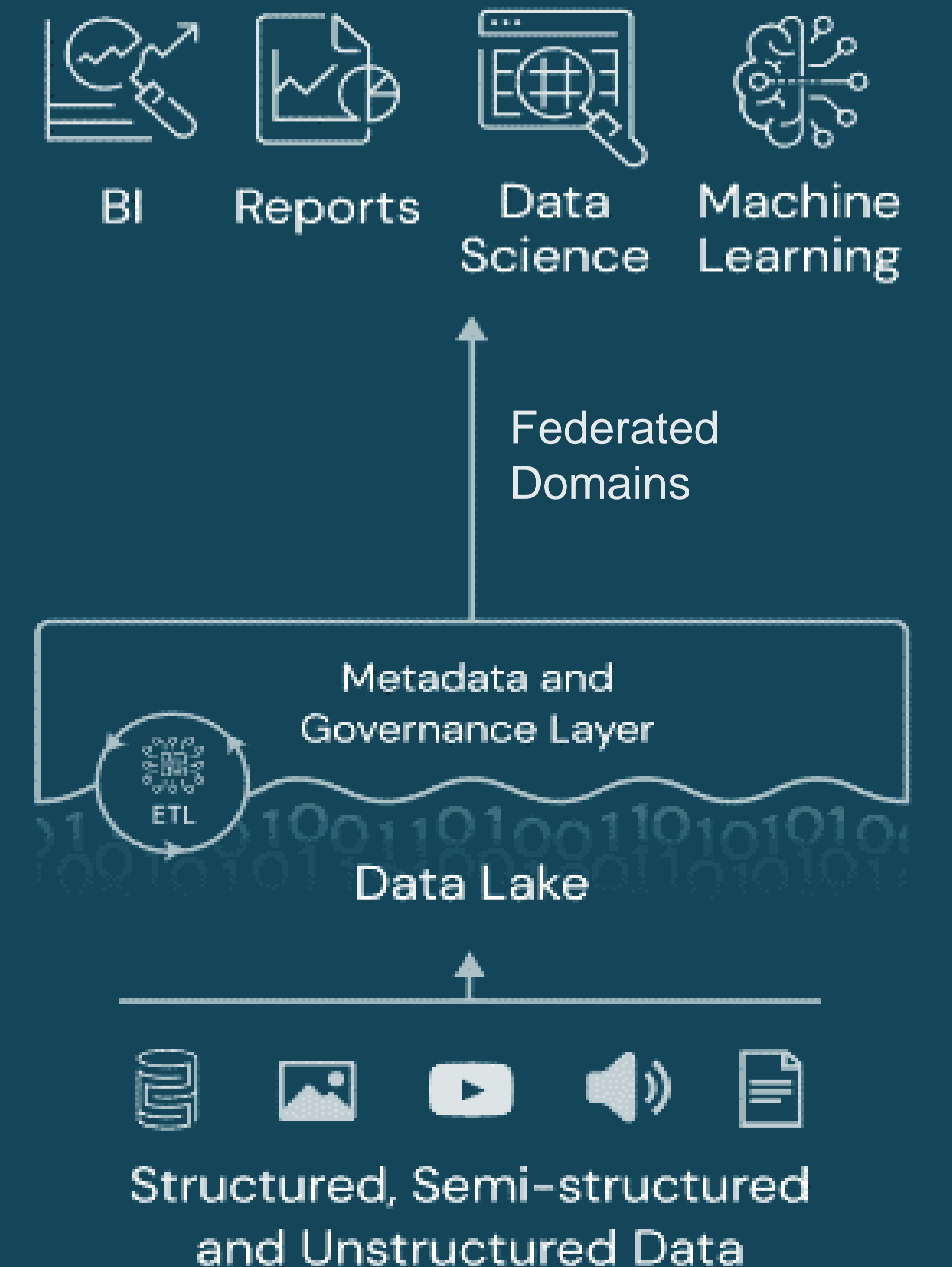
2000-2020

Data Warehouse



2020...

Data Mesh



1

Domain-driven Decentralization

Data-Process-Driven
BPM – Business Process Modeling
Data curation
Data Anywhere

2

Data as a First-class Product

Technology-driven
Data Quality Management at the
Source
Technology Governance
TDRs - Trustworthy Digital
Repositories

3

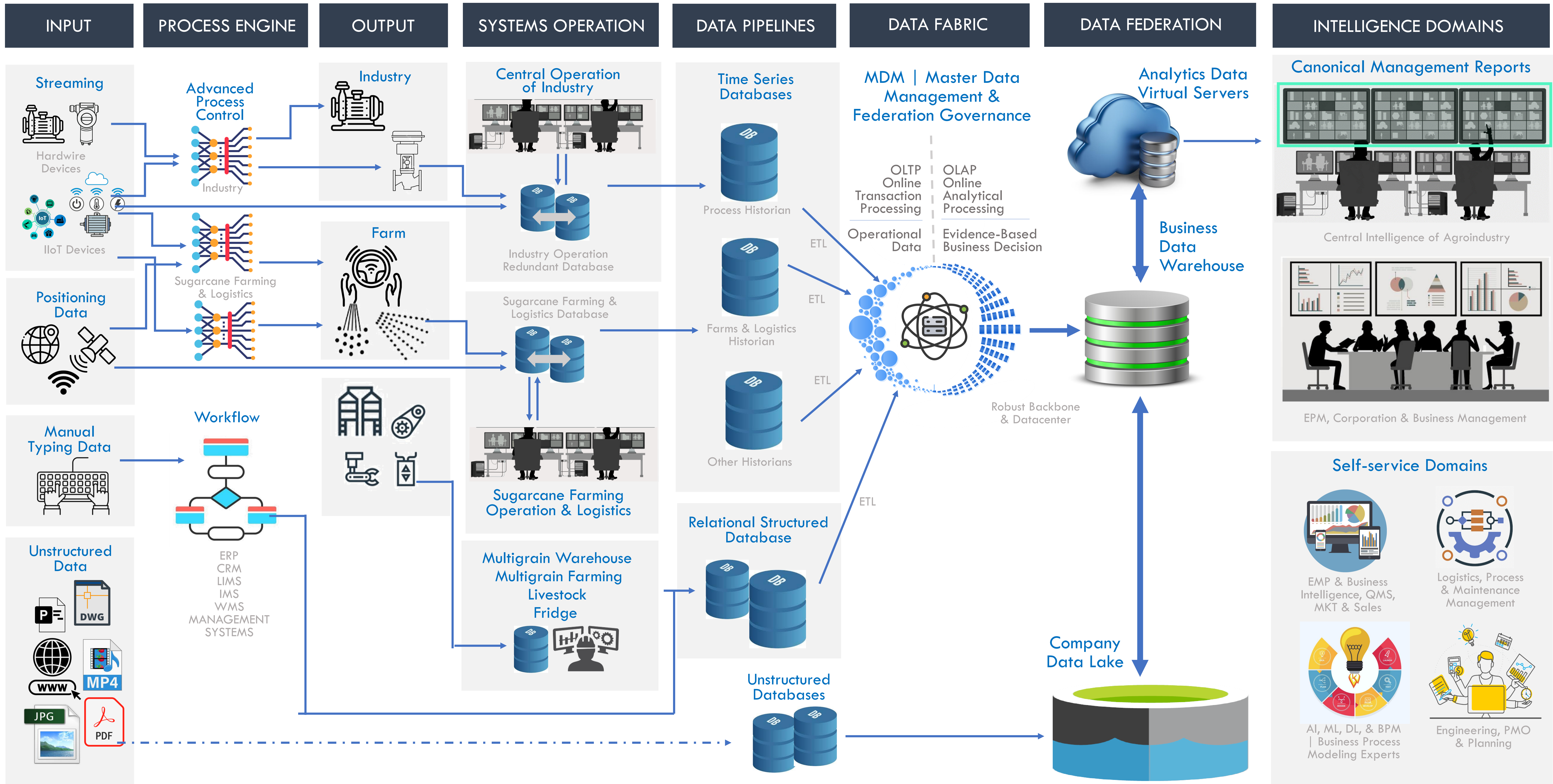
Self-serve Data Platform

Performance-driven
Useful, Available, Accessible, Reliable,
Standardized, and Normalized Data
Used for Business Information &
Intelligence, Management, and
Operation

4

Federated Governance

Governance-driven
Data Governance Policy
MDM – Master Data Management



INTELLIGENCE DOMAINS

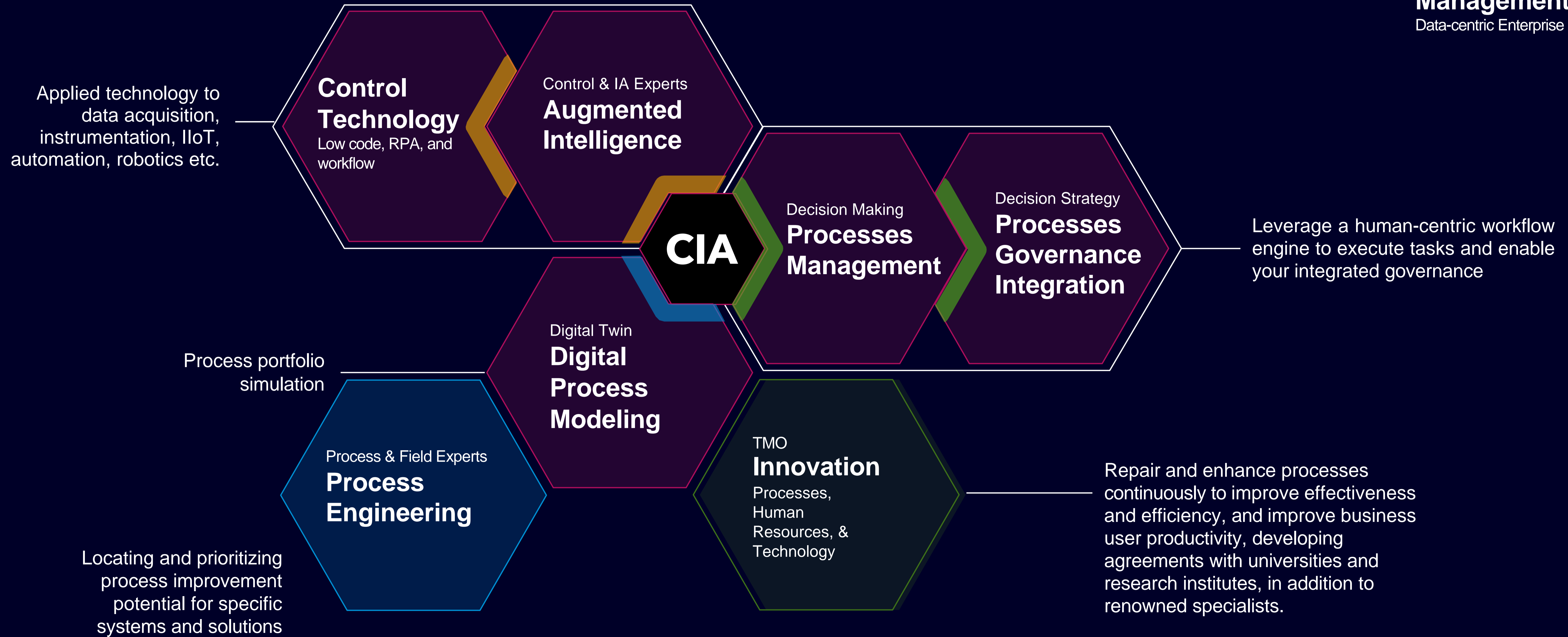
Evidence-based Enterprise

Embrace a data-driven approach to discover, analyze, and mine your end-to-end processes



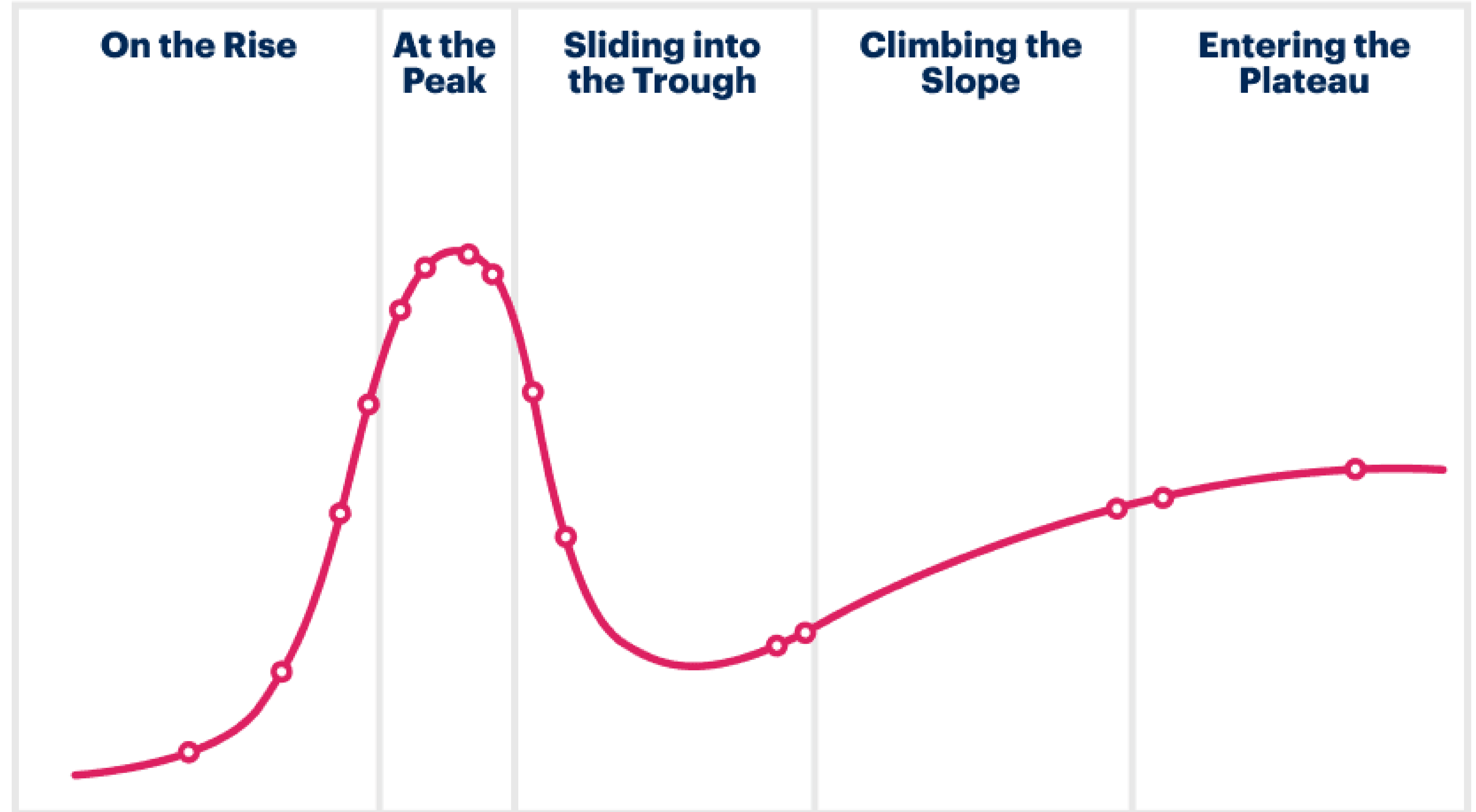
CENTRAL INTELLIGENCE of AGROINDUSTRY

Master Data Management
Data-centric Enterprise





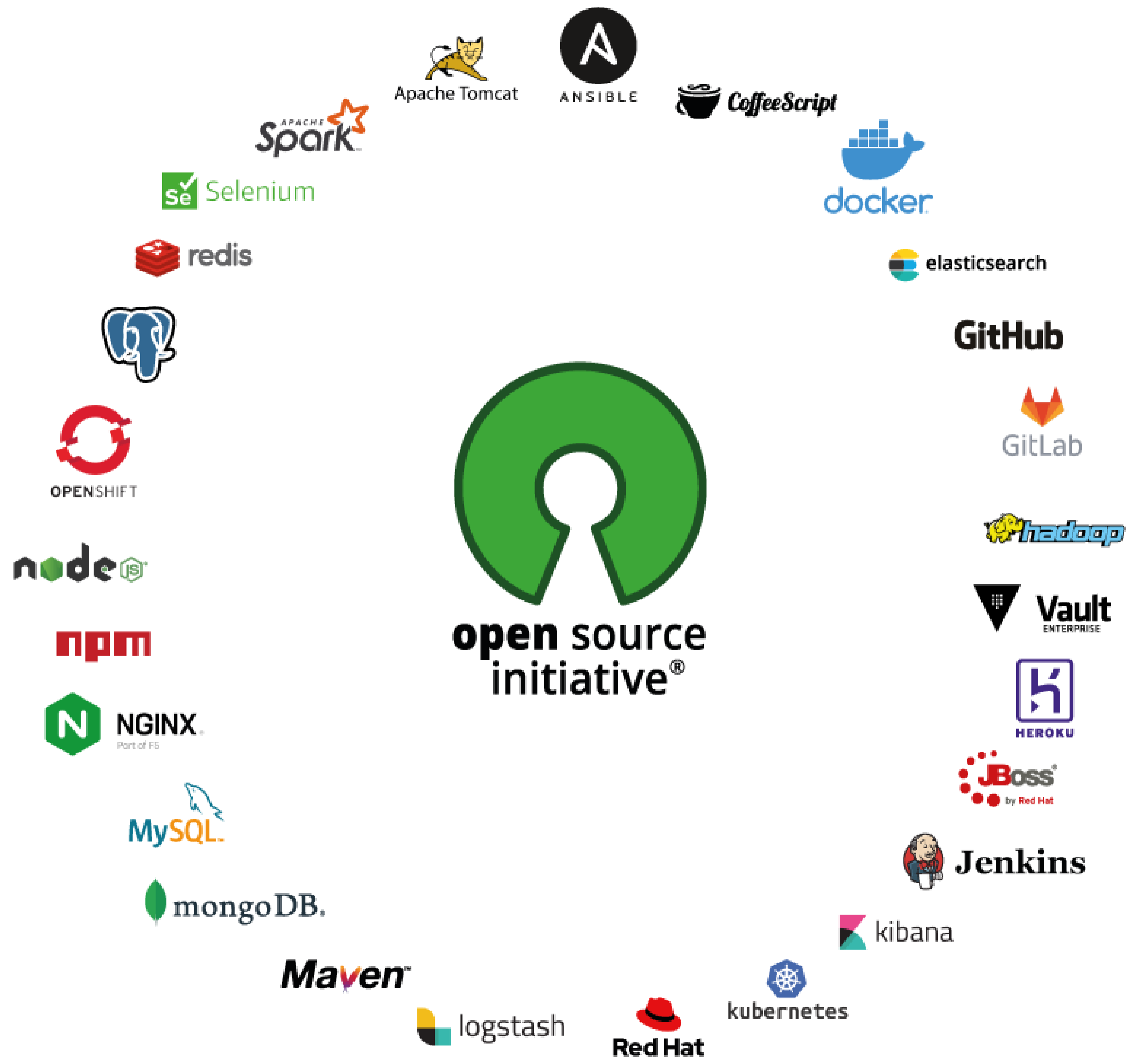
Hype Cycle for Open-Source Software, 2023



2023 marks 40 years of free and open-source software as we know it, but powerful forces are still pushing modern OSS evolution. Software engineering leaders need to track changing usage rules, control supply chain risks, and tap into OSS communities to accelerate innovation and time to value.



A screenshot of the IBM website. The top navigation bar includes the IBM logo, "Products", "Solutions", "Consulting", "Support", and "Think". A secondary navigation bar includes "Think", "Think 2024", "Artificial intelligence", "Cloud", "Security", "Sustainability", "Blog", "Videos", "Events", "More", and a blue "Subscribe" button. Below the navigation is a light blue banner with two buttons: "Explore IBM's PostgreSQL solution" and "Subscribe for AI updates". The main content area features a sidebar on the left with a blue vertical bar next to "What is PostgreSQL?". The main heading is "What is PostgreSQL?". Below it is a paragraph: "PostgreSQL, commonly pronounced 'Post-GRES,' is an open source database that has a strong reputation for its reliability, flexibility and support of open technical standards." On the right, there is a grey box for an "Ebook" titled "Generative AI and ML for the enterprise" with a blue "Let's talk" button.



DATA WAREHOUSE

Partición Virtual Linux
c/ PostgreSQL

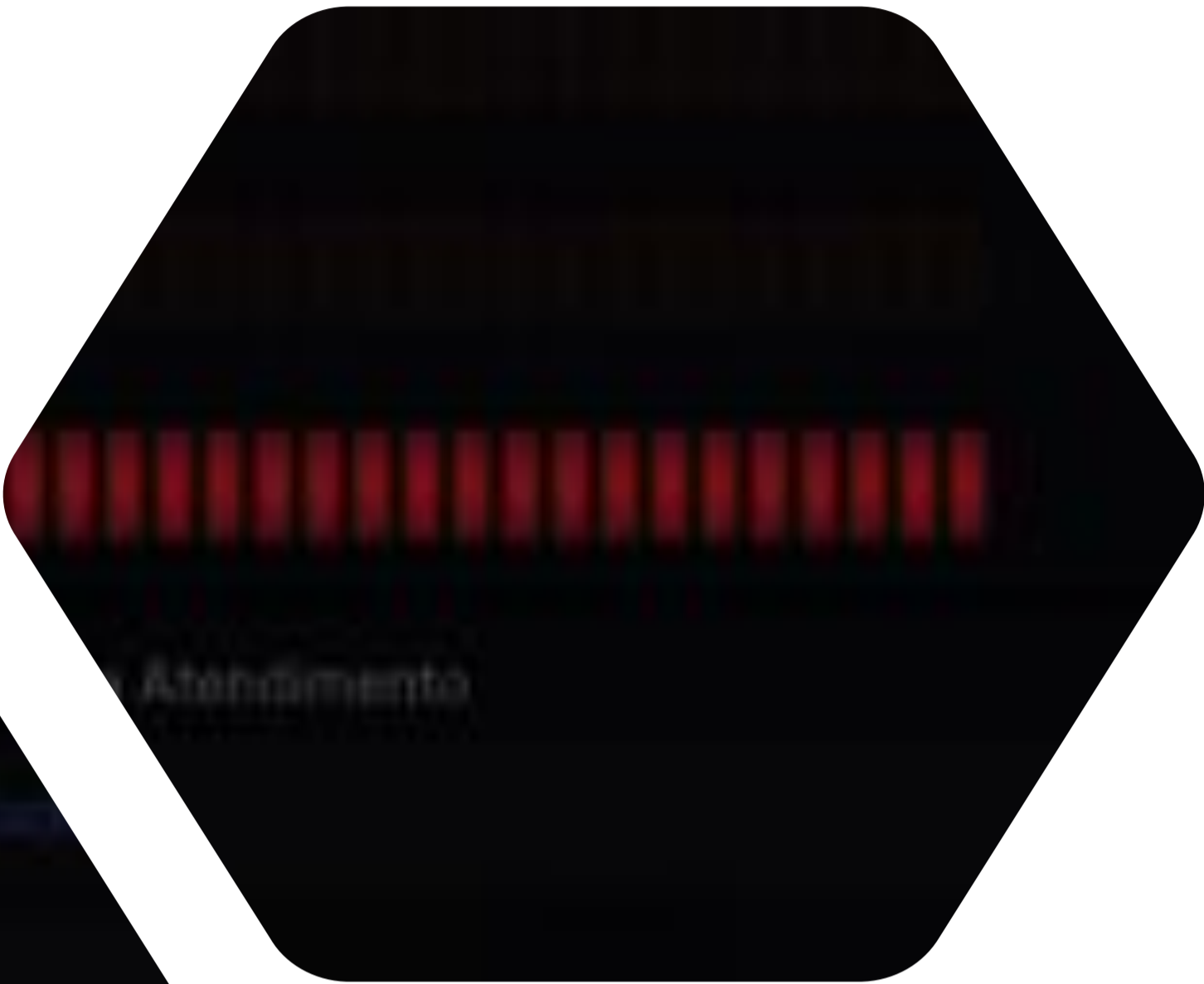


Linux



DASHBOARDS

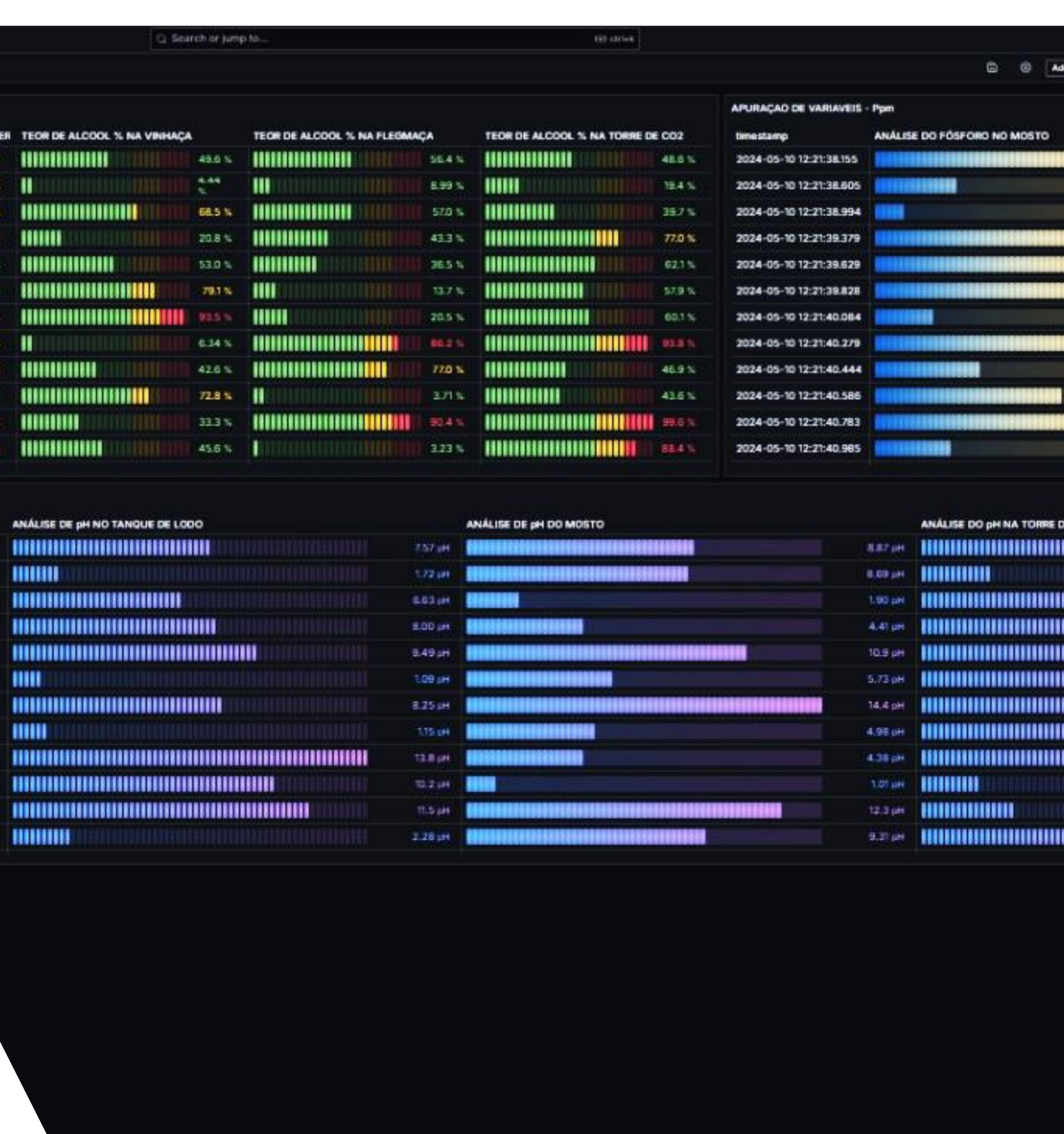
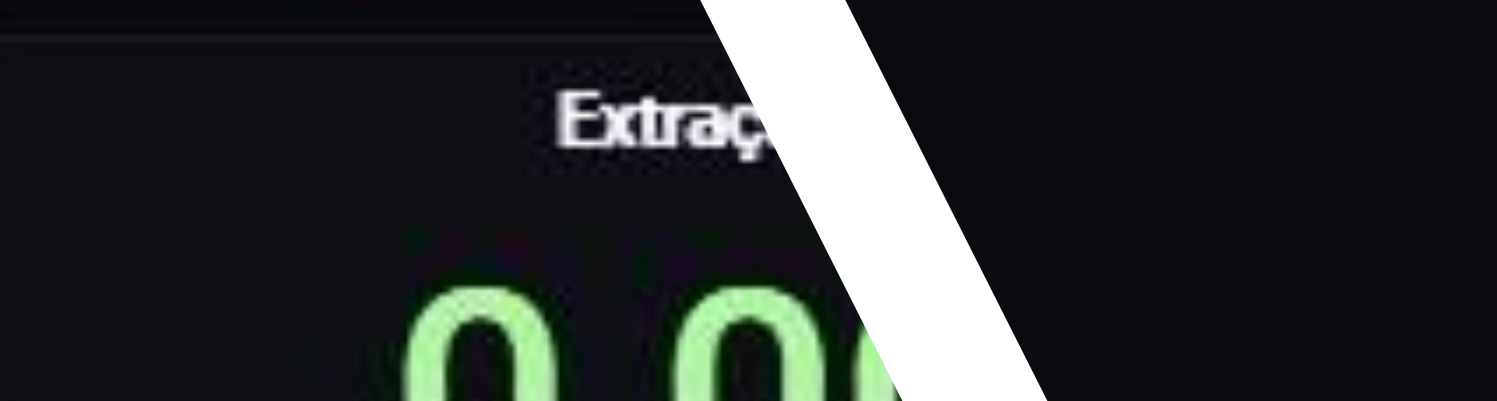
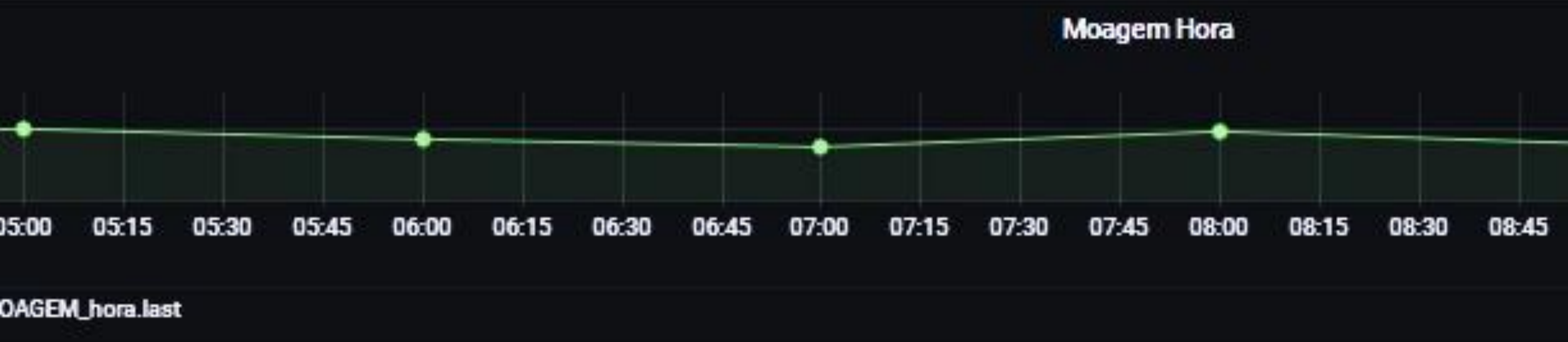
Grafana



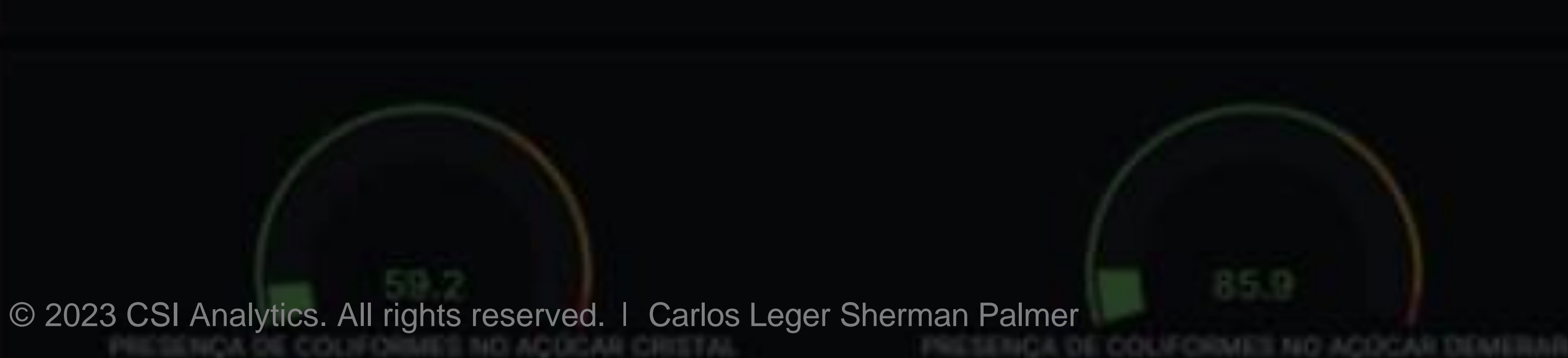


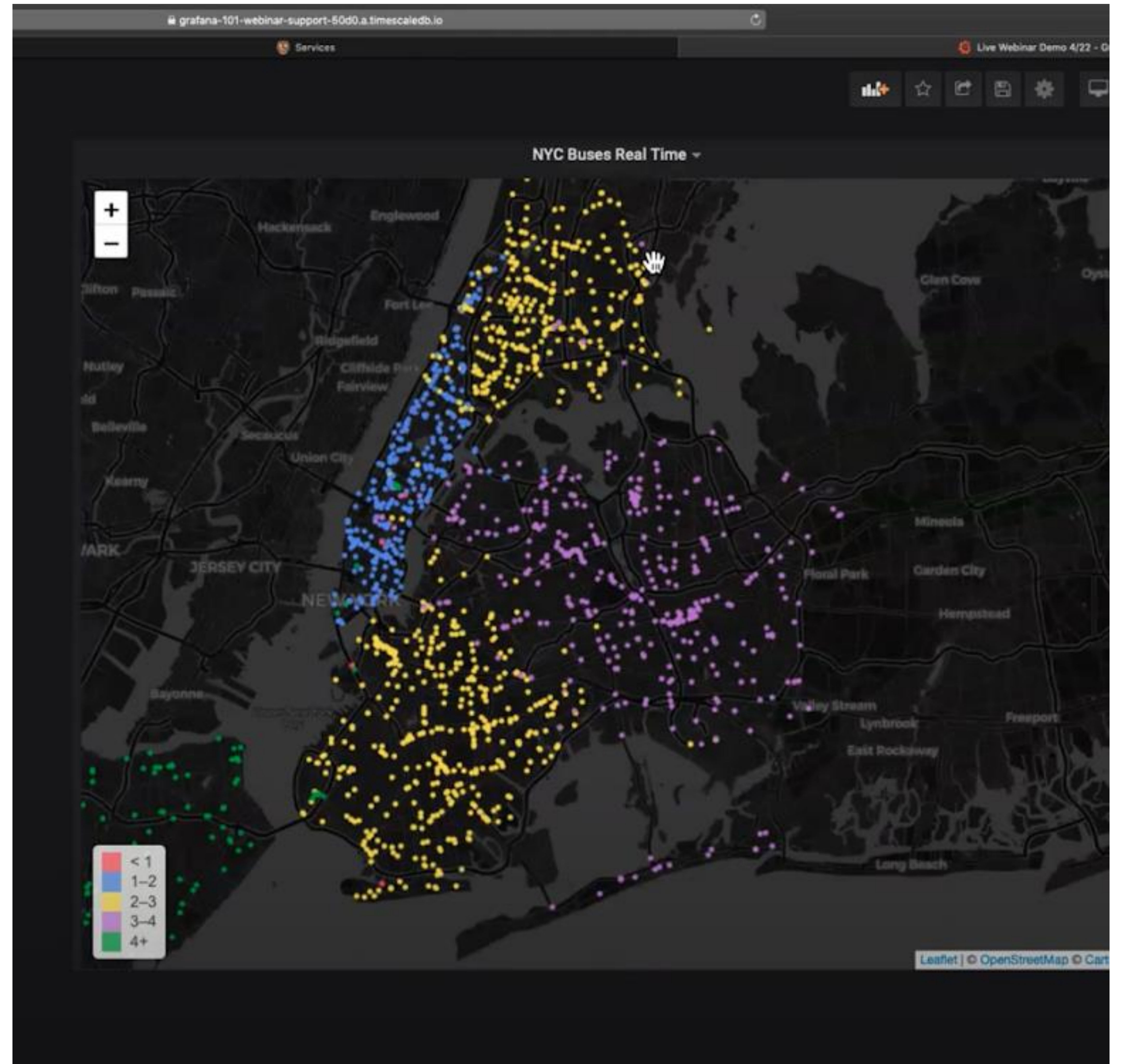
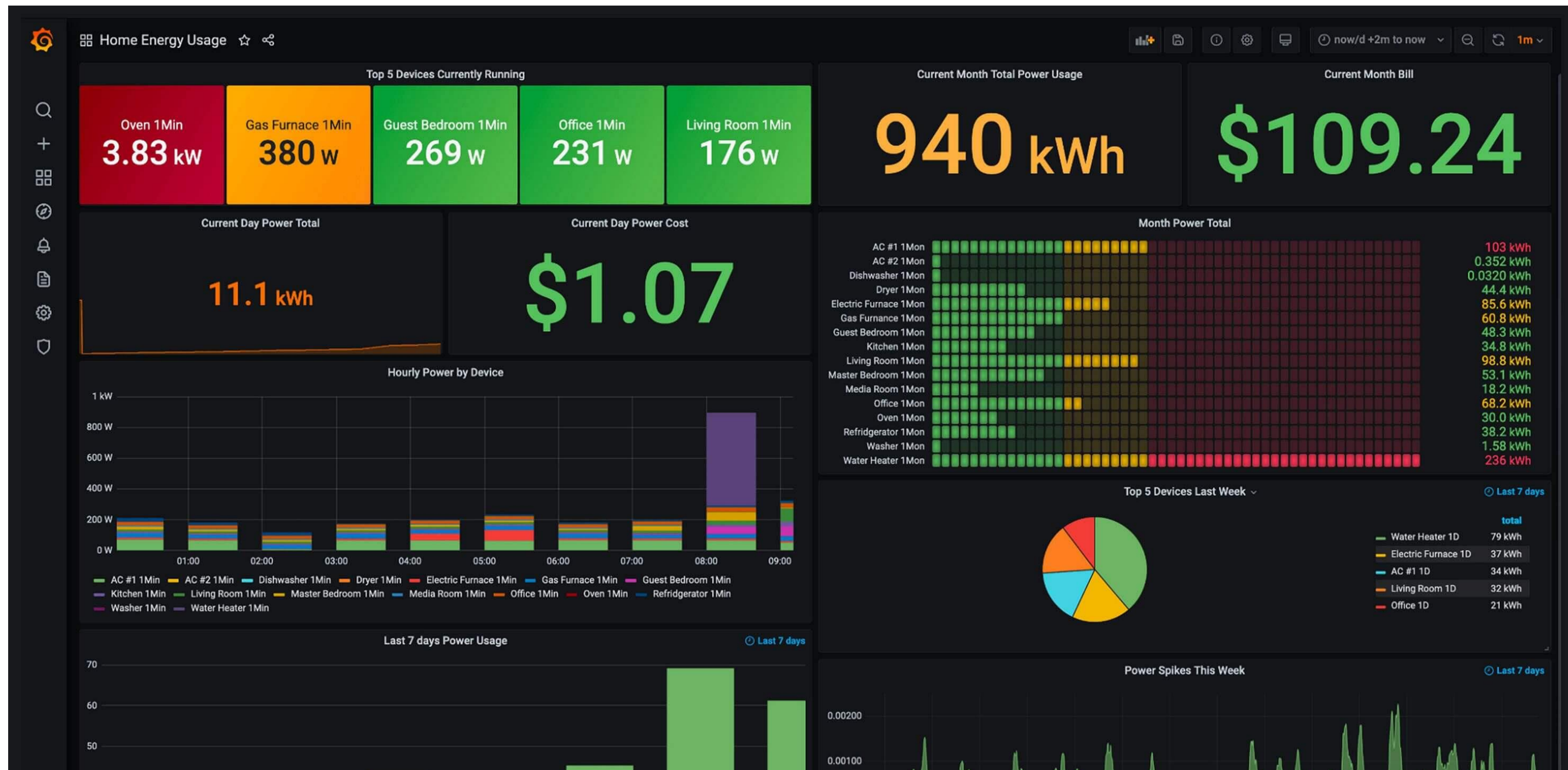
Production and Energy Summary

Vapor Caldeira 2	Vaz. Caldo Misto p/ decant 2	TG1	TG2
236 t/h	588 m³/h	24.9	0
Produção de Anidro HJ	Produção de Hidratado HJ	Produção de Energia UTE1	Produção de Energia UTE2
319 m³	380 m³	153 MW	100.14 MW
Produção de Anidro HJ	Produção de Hidratado HJ	Energia (MW) por tonelada de fibra	
875	879	1.24	



ANALISE DE AÇUCAR





INTRODUCCIÓN A LA NEUROCIENCIA PARA LA TOMA DE DECISIONES

Carlos Leger SHERMAN Palmer, PhD





Siempre será mejor
encender una luz que
maldecir la oscuridad.

CARLOS SHERMAN

Adaptado de un antiguo proverbio chino

SHERMAN | Adágios



Gracias

TOTALES