

Improving Safety and Productivity at Braskem With Prometheus ePAS

April 25th, 2024



PROMETHEUS GROUP | **USER**
17TH ANNUAL

CONFERENCE

NORTH AMERICA

Speaker Introduction



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About Braskem



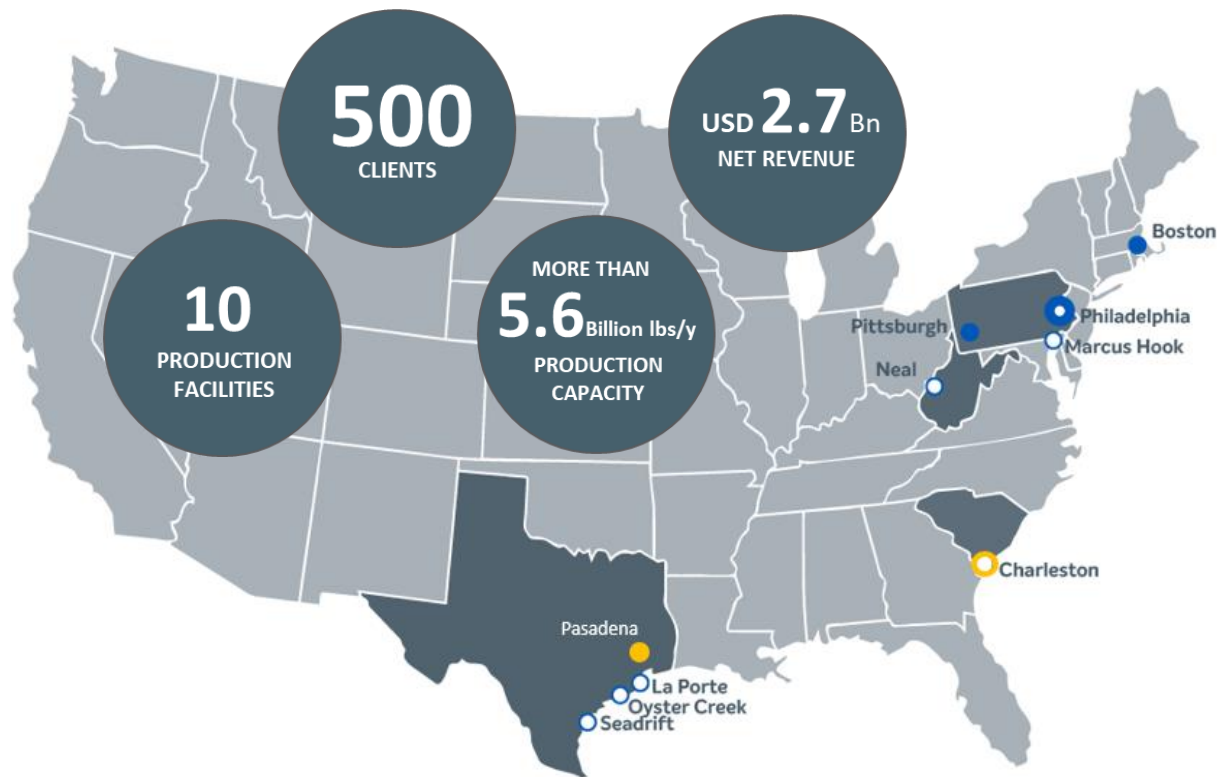
About Braskem



About Braskem

Data as of May 2023

U.S. INDUSTRIAL AND COMMERCIAL FOOTPRINT



840+
U.S. TEAM MEMBERS

Since inception in 2010, Braskem America has invested \$1.2 billion in capital toward company growth and development in the U.S.



 Innovation & Technology Center

 Headquarters

 Manufacturing Units

 Global Export Hub

 Corporate Office



About Braskem

BRASKEM IN FIGURES

Together, we can do more

› **40** INDUSTRIAL
UNITS

Clients in more than
› **70** COUNTRIES

› **8,656**
team members in feb/2023

Recurring operating result
› **10.6** BILLION
Brazilian Reals in 2022

PRODUCTION OF APPROXIMATELY
› **14.9** MILLION
tons in 2022

Free cash flow generation
› **3.3** BILLION
Brazilian Reals in 2022

BRL
› **514** MILLION
Invested in Innovation in 2022

› **153** projects
focused on generating
environmental and/or social
impact in 2022

› **+610** million people
benefiting from social and
environmental projects
worldwide in 2022

Braskem 



Braskem's ePAS and HES Strategy



Braskem's ePAS + Mobility Strategy

MAINTAIN A GLOBAL VISION BUT WITH LOCAL IMPLEMENTATION LEADERSHIP, STARTING SMALL AND SCALING QUICKLY



Desire to align on **global platform**.



Implement **minimum scope** of platform on a **specifically defined geographic footprint**.



Allow regions to **select portions of the platform & implement** in a coordinated way at their pace, according to budget and interest



New regions can add the existing scope; Regions expand to other modules with justification.

* Expansions managed by IT and **local resources** with Corporate Maintenance and Reliability, EHS & Digital coordination

* Local/Regional implementation and rollout strategy, based on available resources and schedule

MVP Geographical Scope

● MVP in Progress

● MVP Concluded

US
All 5 sites;
Beta Site LP



BRAZIL
Rio de Janeiro PP5/PE9/Q4

ePAS Rio – 2022/23/24
USA Plants – 2024+



ePAS and Digital Strategy

Digital HES Strategy in a nutshell

Part of our strategy is to define leading KPIs that help us to identify if we are advancing towards our vision!



“Transition to a future where the **human contribution to work is optimized, protected, and sustainable**”

“Create a **sustainable and incident free work environment** through human reliability, safety and environmentally driven digital solutions. “

(i) Reduce human exposure to risk, (ii) Identify and prevent hazardous situations, (iii) Improve competency and knowledge, (iv) Adherence to Procedures/processes

*Think Big, Start Small
and Scale Fast!*

ePAS and Braskem – Safety and Efficiency

HUMAN RELIABILITY



Standardized process flow; Greater **visibility** of the work



More **reliable** and easier **auditing**



Reduction of **human errors**



Better **control** and **targeting** of the **Maintenance** team



Enhanced **compliance**

PRODUCTIVITY

Connected Process – Planning, Procedures, Forms



Most fields will be **automatically / prefilled** during planning phase



Electronic Work Permit will take **less time** to be issued
Activities **prioritization** (risk analysis, environmental monitoring, explosiveness, etc.)



Reduction of **manual work** & Reduction in **efforts** (evaluation and analysis)



Higher **agility** due to fewer items to be checked (integrations)



Programmed work: **Productivity** improvement
Reduce wait in queue



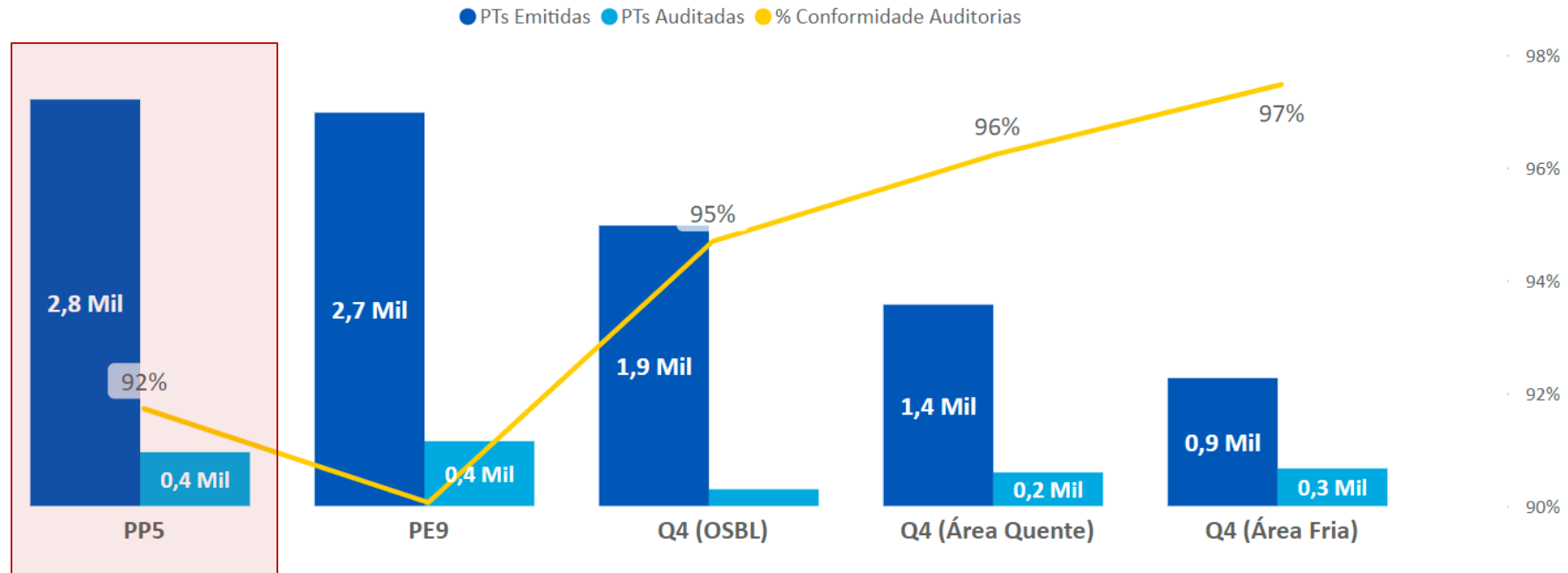
Dashboards & KPIs
Management improvement;
Future **AI** potential



ePAS in Rio – Figures and KPIs



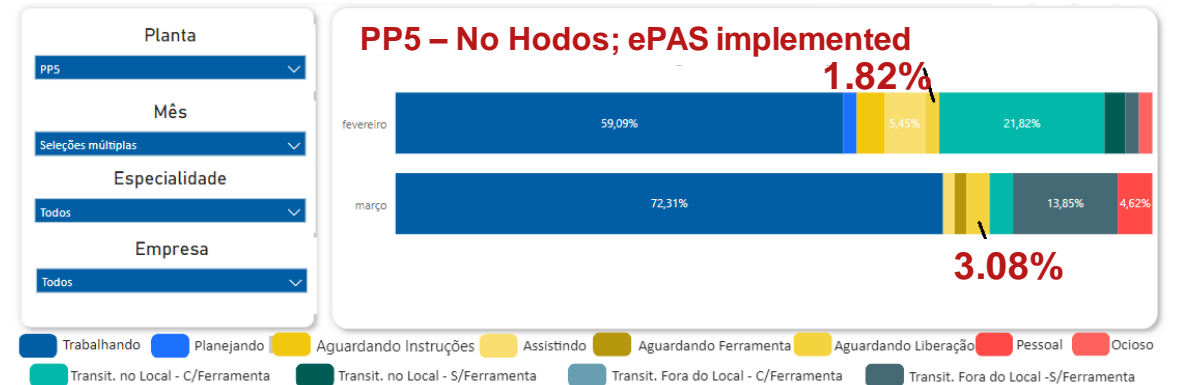
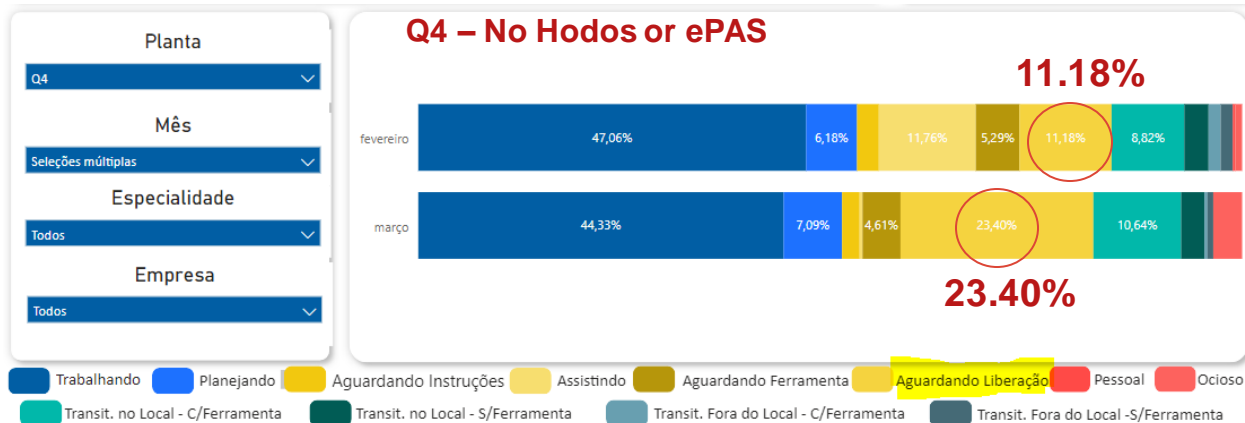
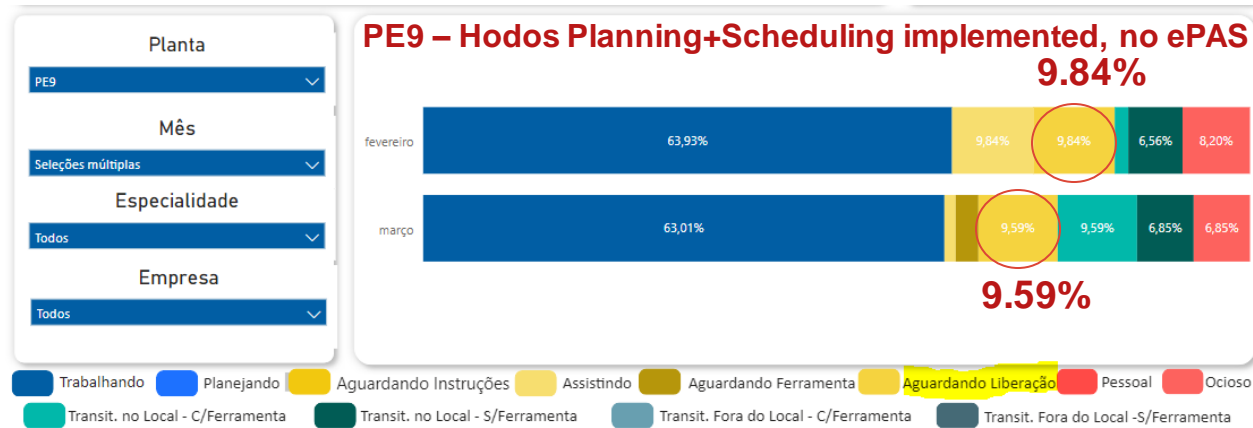
Work Permit Auditing Numbers – 2023



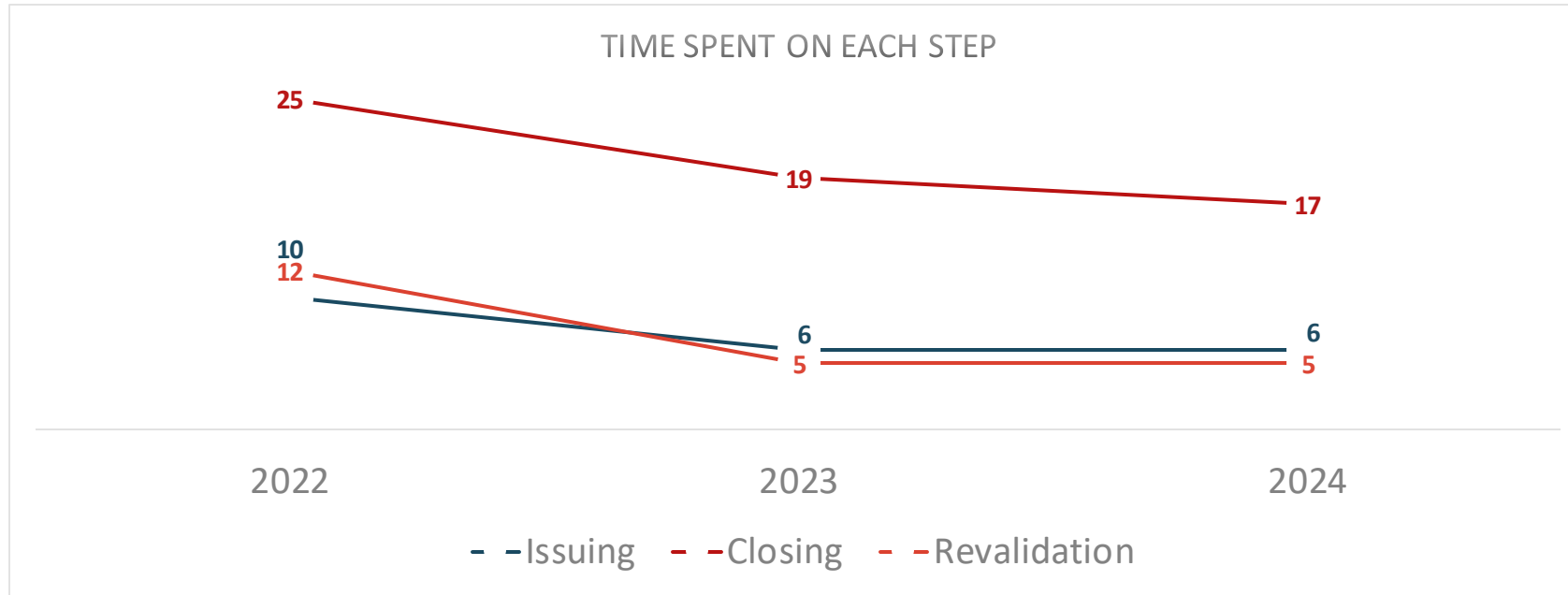
Conformity compatible with other plants without ePAS – though many of the deviations were due to the project's implementation. 2024 numbers have been gravitating towards 98% conformity so far



Productivity – Time Waiting for Permit



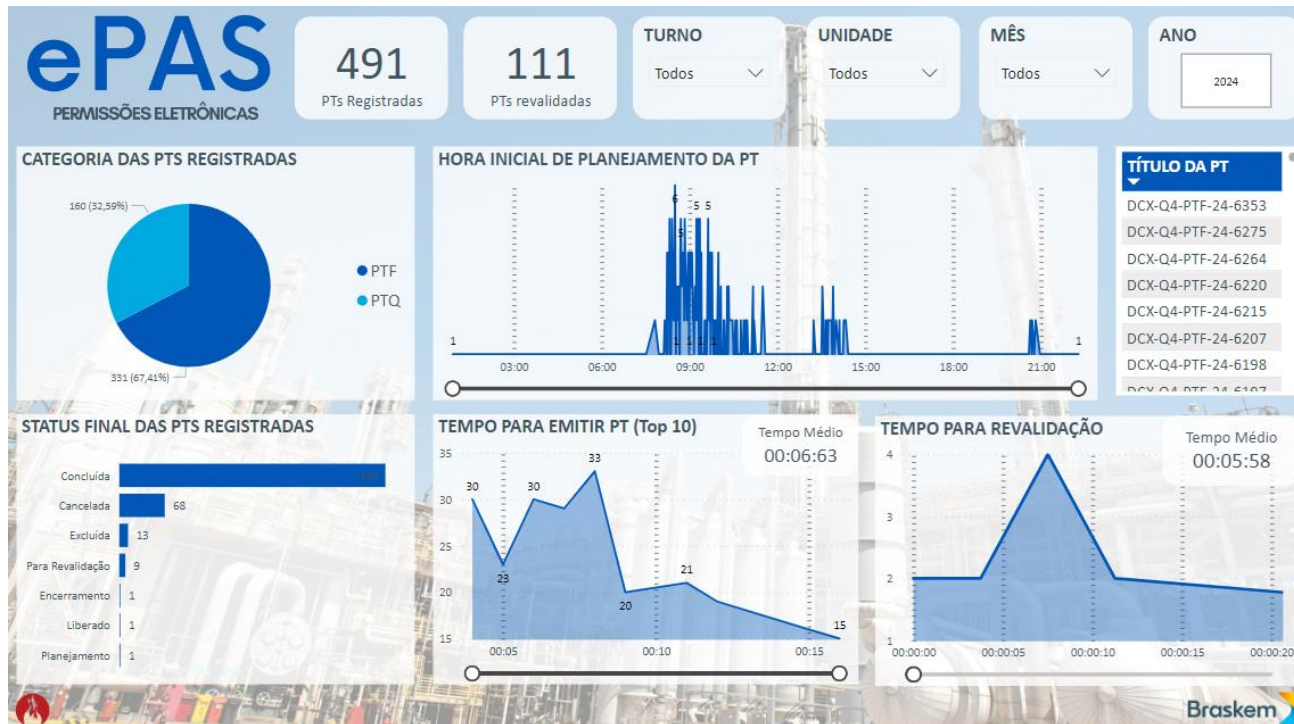
Average PTW Issuing Time Within ePAS



- Year over year after the initial Go-Live, users have shown greater familiarity with the tool, reducing even more the already shorter time spent on each step of the permitting process



ePAS Data Management Integration



- ePAS enables independent data retrieval and evaluation of each permits' stage
- Data recorded on the platform can be analyzed using Macros/Excel/PowerBI
- Faster data retrieval: simply download/update reports from the database
- Physical Work Permits require manual counting and consume significant man-hours
- Analysis of physical permits demands additional effort to provide relevant data
- ePAS facilitates extraction and analysis of both quantitative and qualitative data

ePAS PowerBI – configured and ran by Braskem's local team using Prometheus' data



“

“In every aspect of the solution, our intent was to make it as easy as possible for people to do the right thing.”



Thank You!

Questions?



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