Putting Data at the Center of your Constuction Business

Jason Burns
Tilson
August 7th, 2024

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AGENDA

- Introduction
- Understanding ERP Systems
- The Rise of Data-Centricity
- Leveraging ERP Systems within a Data-Centric Framework
- Benefits of Data-Centricity
- Case Study: Success Stories of Data-Centric Transformation
- Future Proofing Construction Operations
- Q&A
- Key Takeaways / How to get started

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WHO I AM

FIELD

SECURITY

FINANCE

TECH

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INTRODUCTION TO TILSON

- Recognized 13 consecutive years on the Inc. 5000 list, one of the most prestigious rankings for the nation's fastest-growing private companies
- Organically grown construction consulting and telecommunications services firm designing, engineering, permitting and constructing fiber and wireless telecommunications network infrastructure
- 1,400+ employees in 25+ office locations nationwide
- 60+ Construction consulting full-time employees with 30+ in contingent workforce
- Nationwide licensed professional engineer
- Nationwide licensed telecom contractor and electrician in many states

UNDERSTANDING AN ERP

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UNDERSTANDING AN ERP

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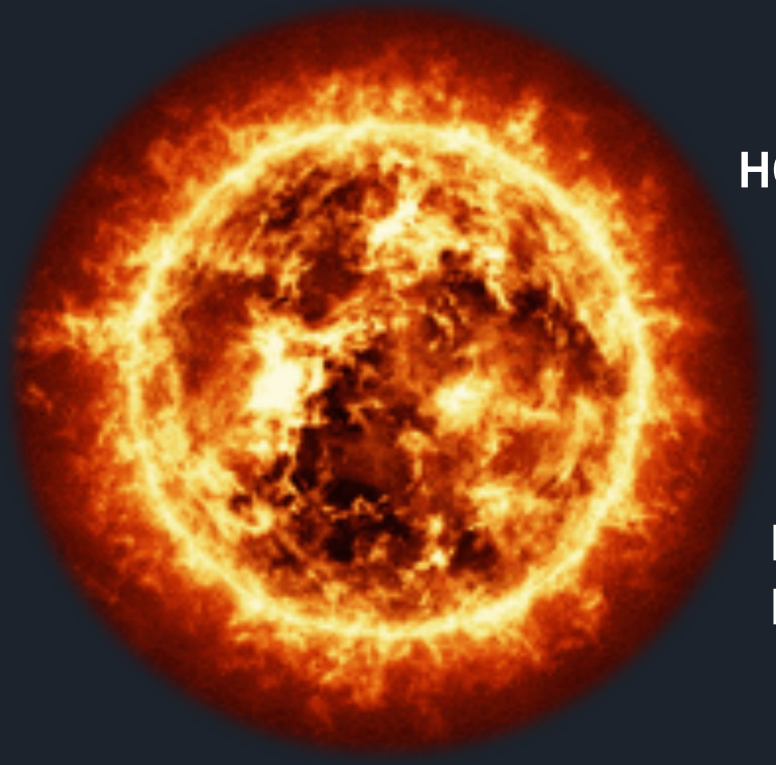
UNDERSTANDING AN ERP



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UNDERSTANDING AN ERP

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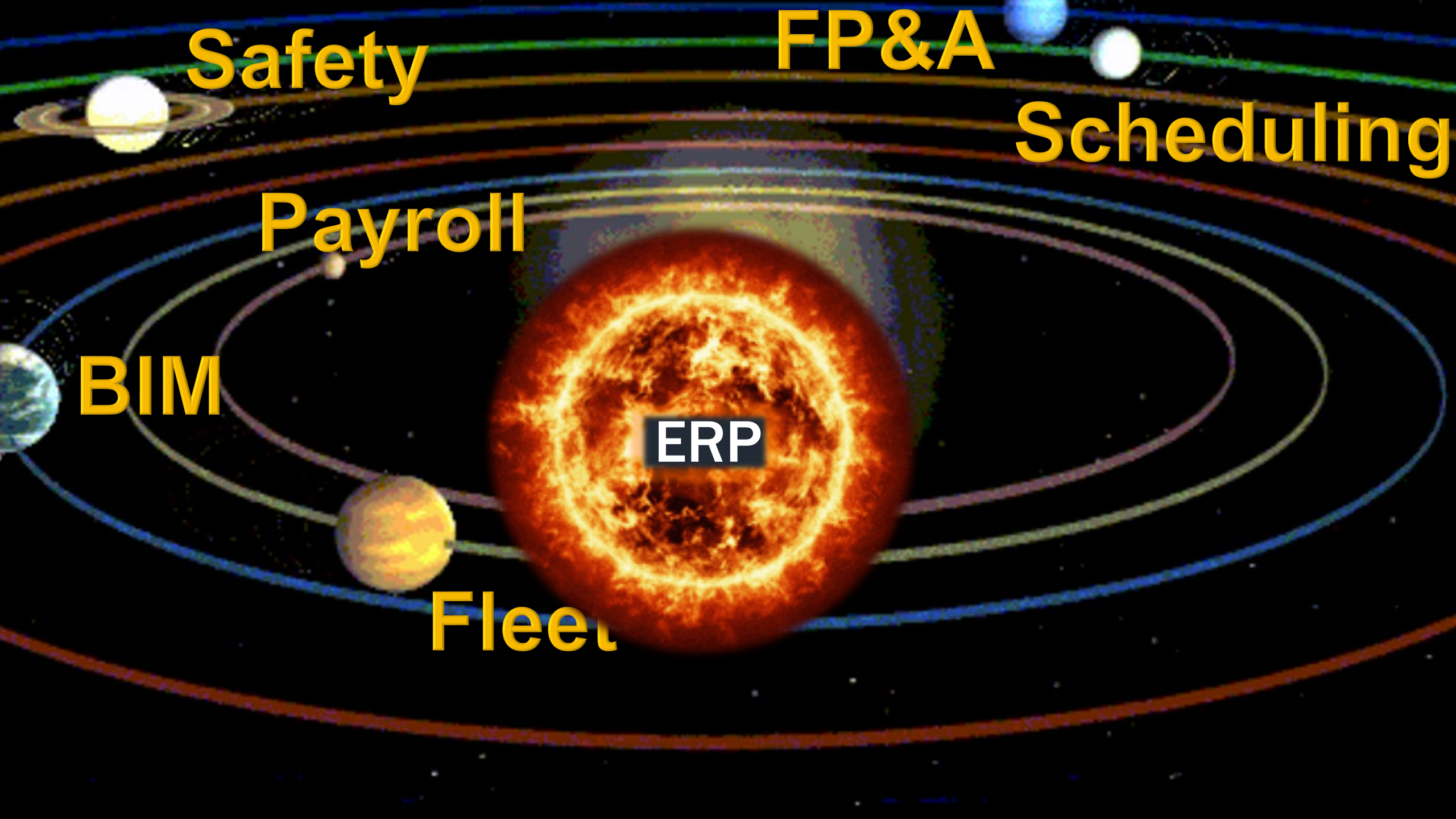
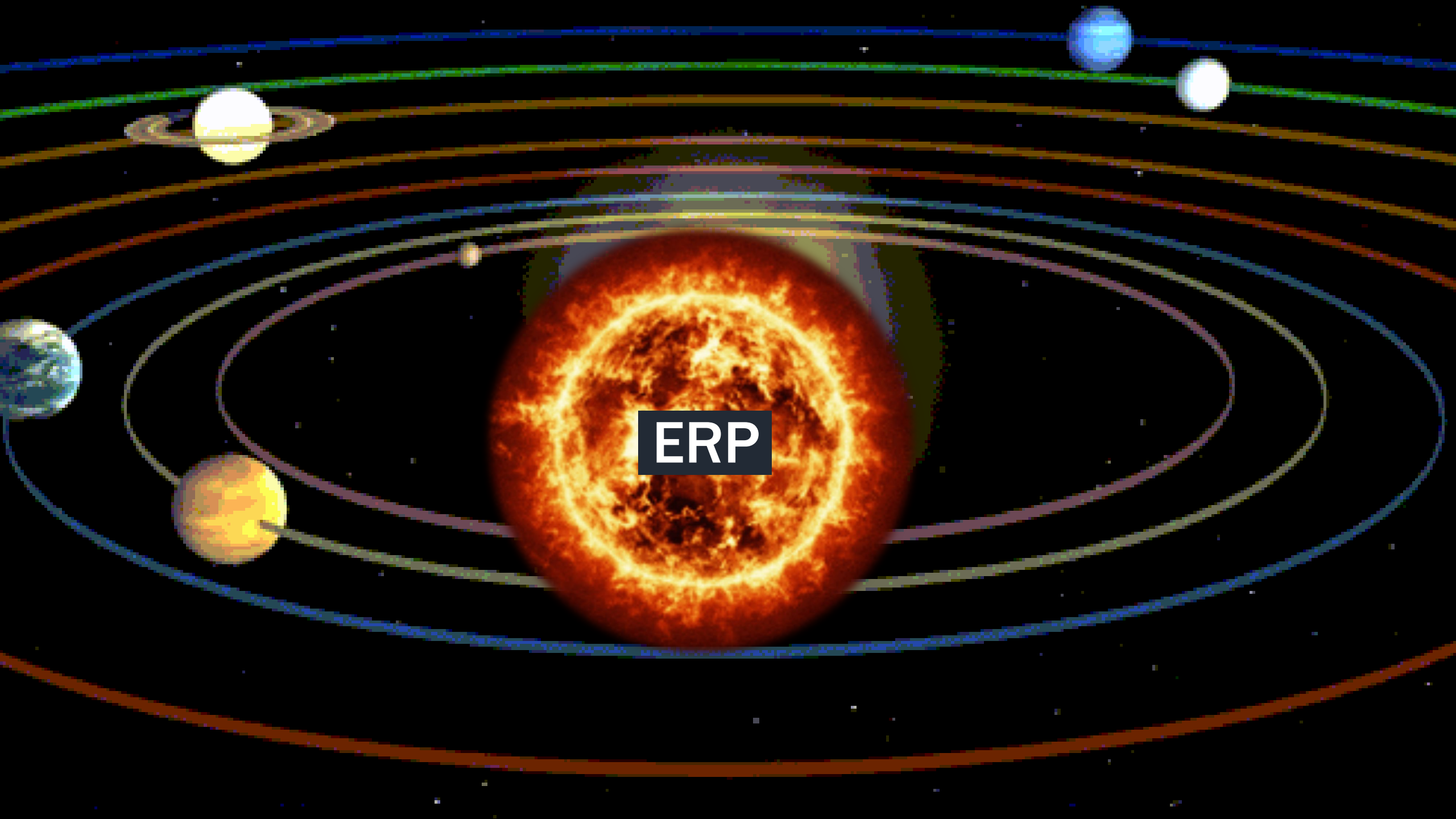

Safety
FP&A
Scheduling
Payroll
BIM
ERP
Fleet


ERP

THE RISE OF DATA-CENTRICITY

ERP = DATA & INPUT & CONTROLS

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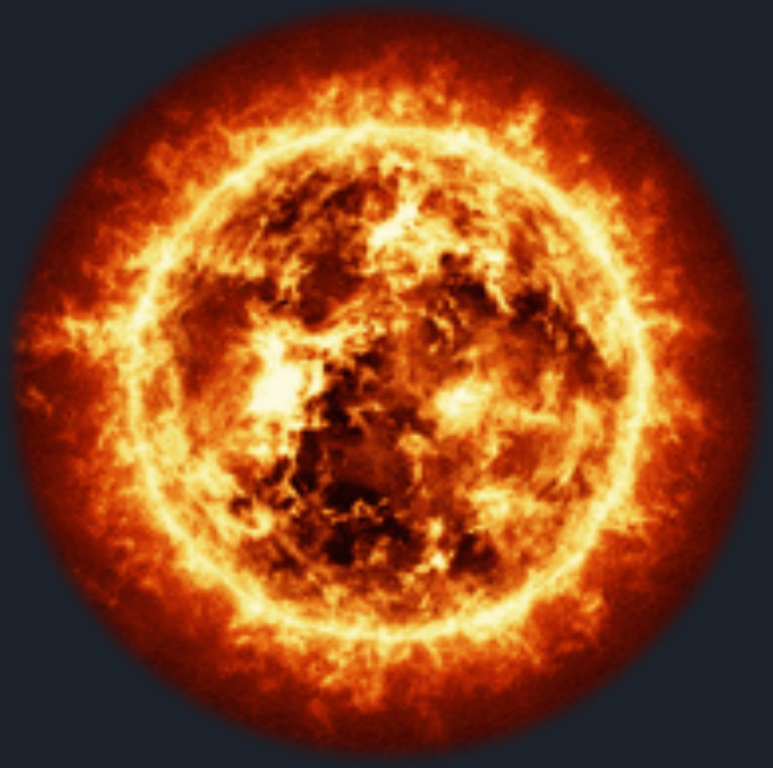
THE RISE OF DATA-CENTRICITY



ERP = ~~DATA &~~ INPUT & CONTROLS

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THE RISE OF DATA-CENTRICITY

ERP = ANALYTICS & INPUT & CONTROLS

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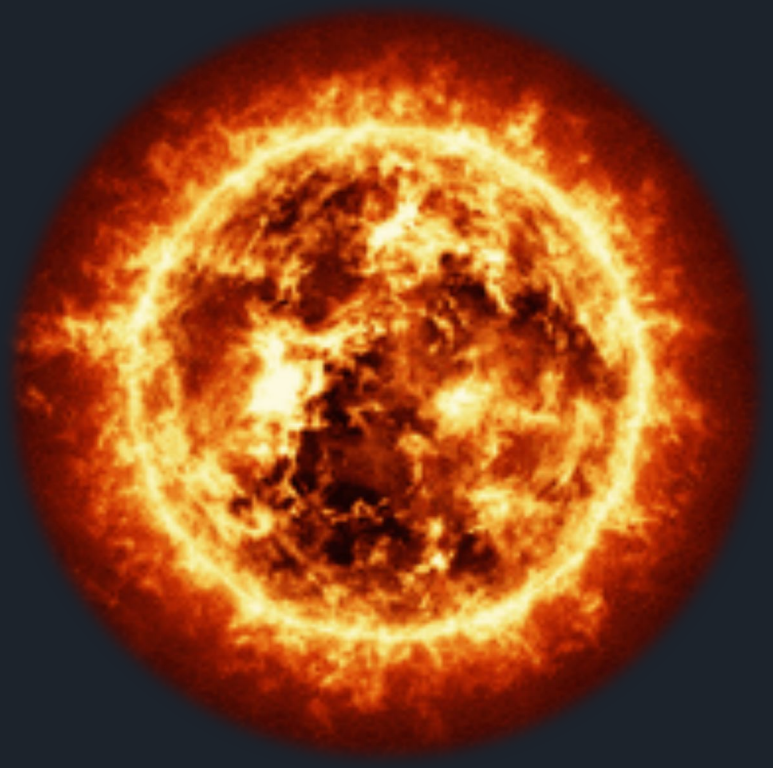
THE RISE OF DATA-CENTRICITY



ERP = ~~ANALYTICS~~ INPUT & CONTROLS

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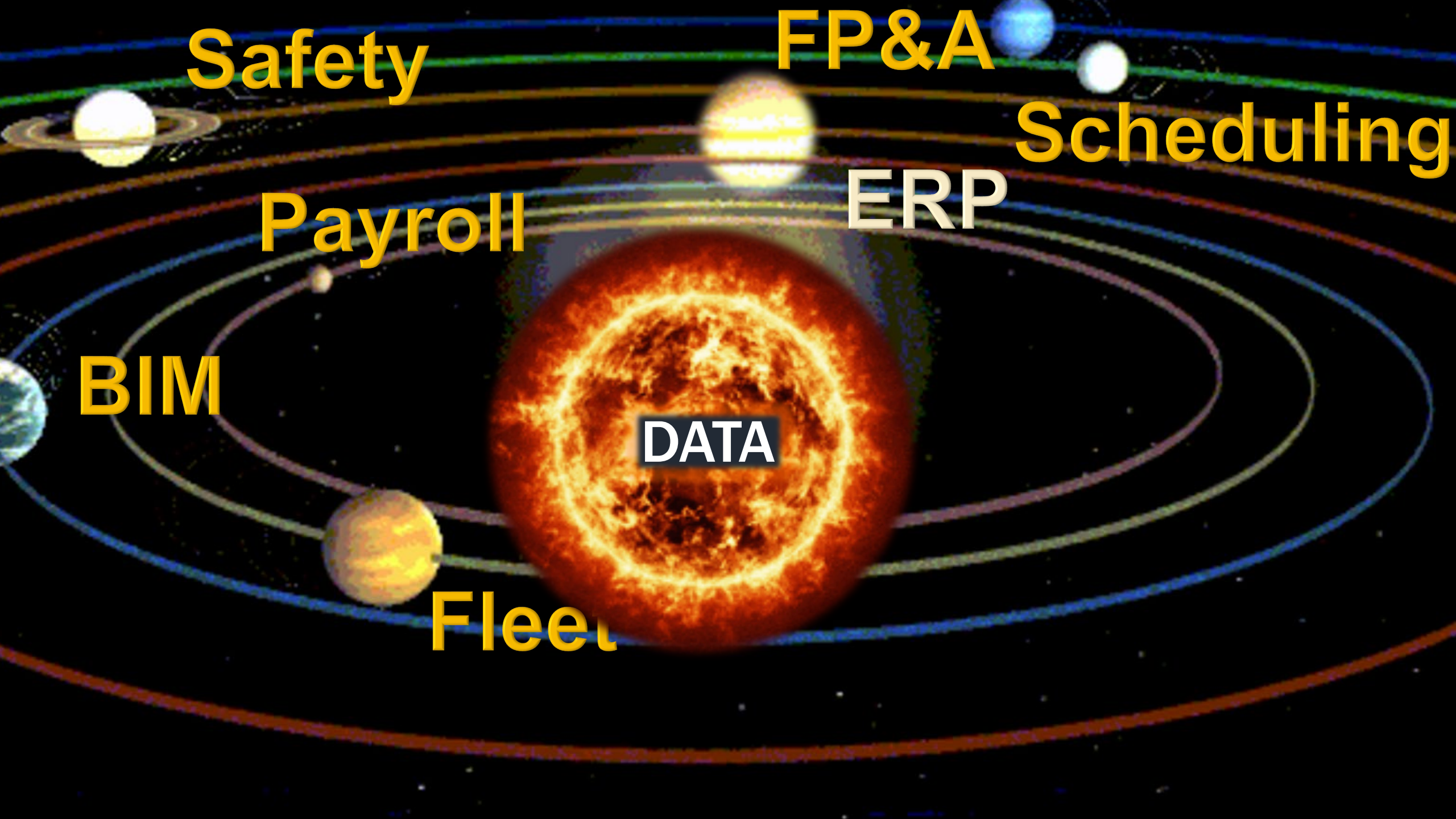
Safety
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DATA
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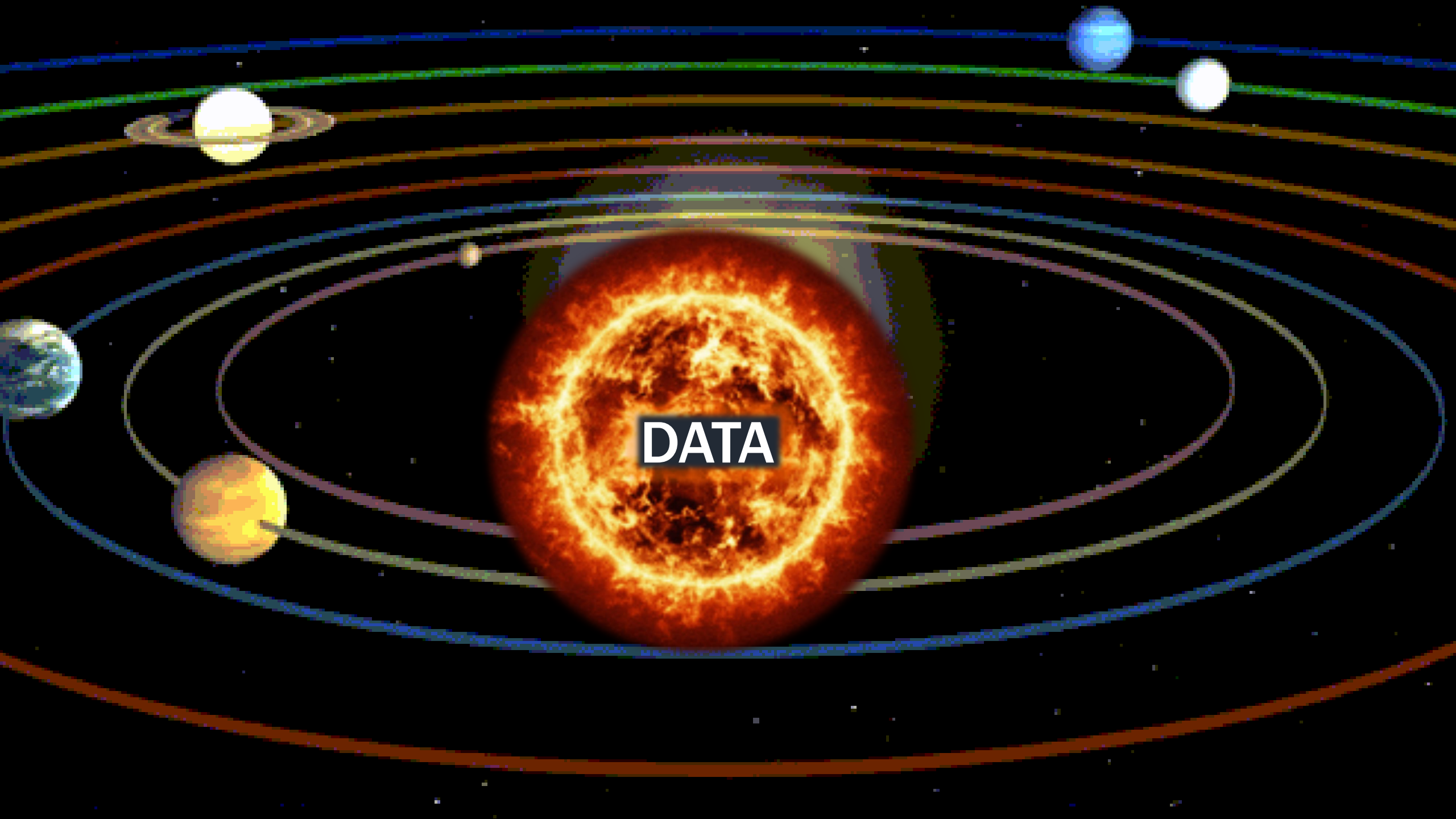
DATA

LEVERAGING ERP SYSTEMS WITHIN A DATA-CENTRIC FRAMEWORK

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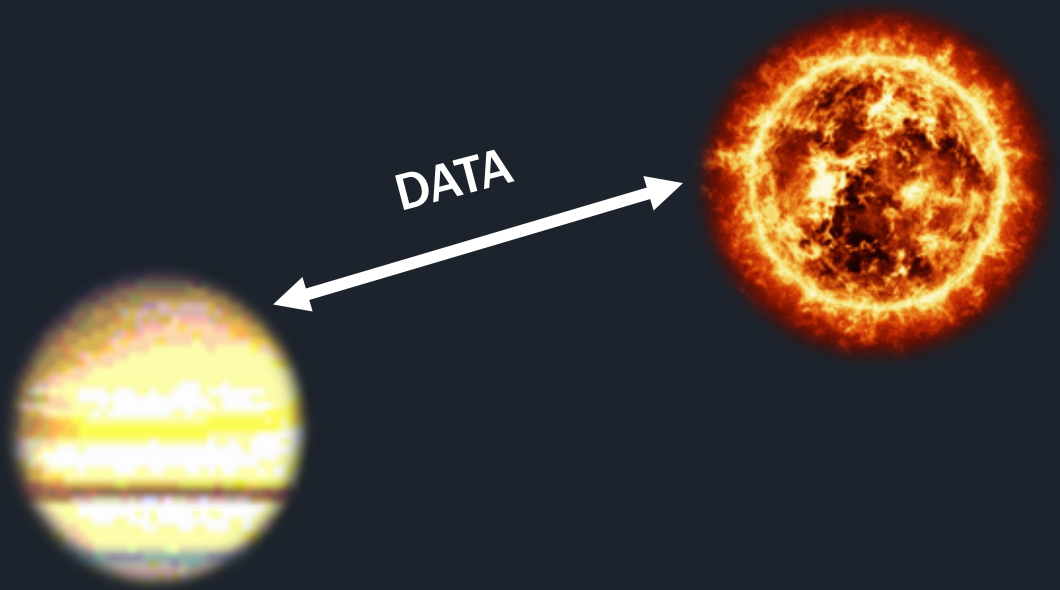

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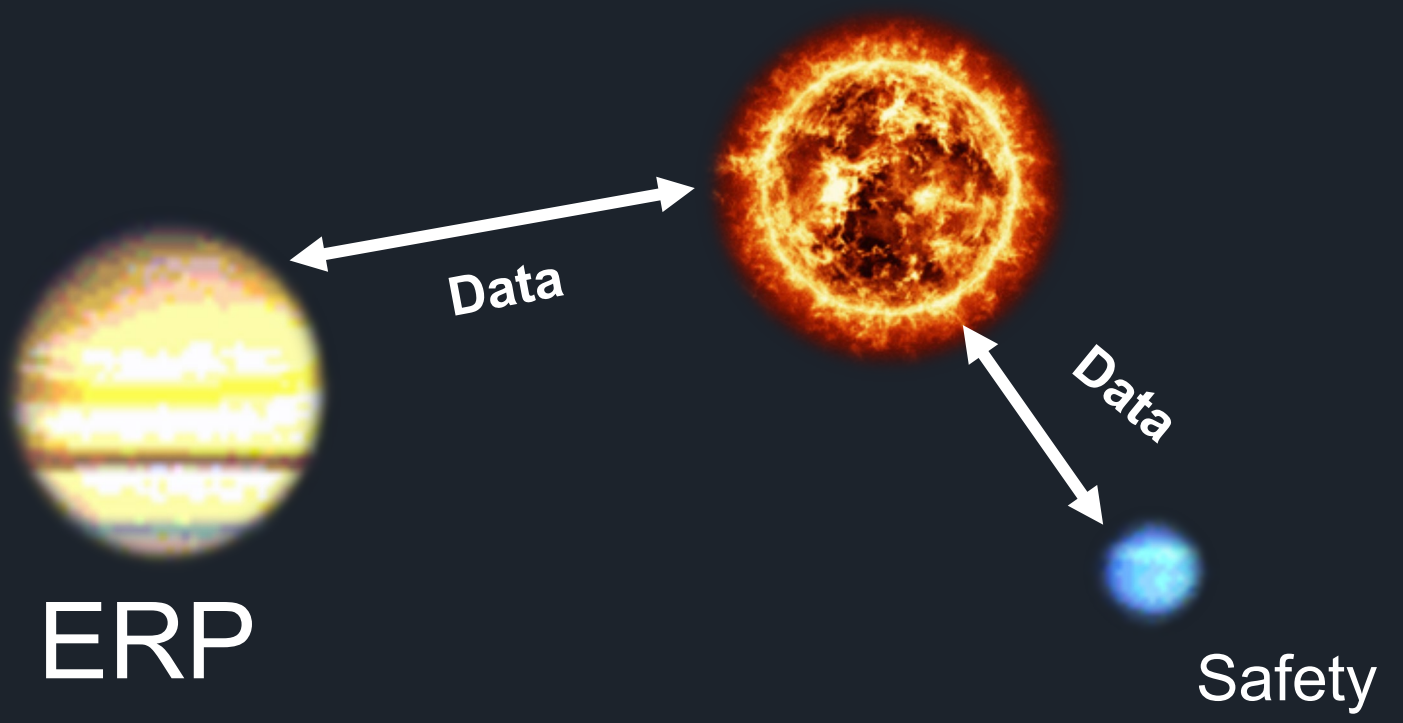

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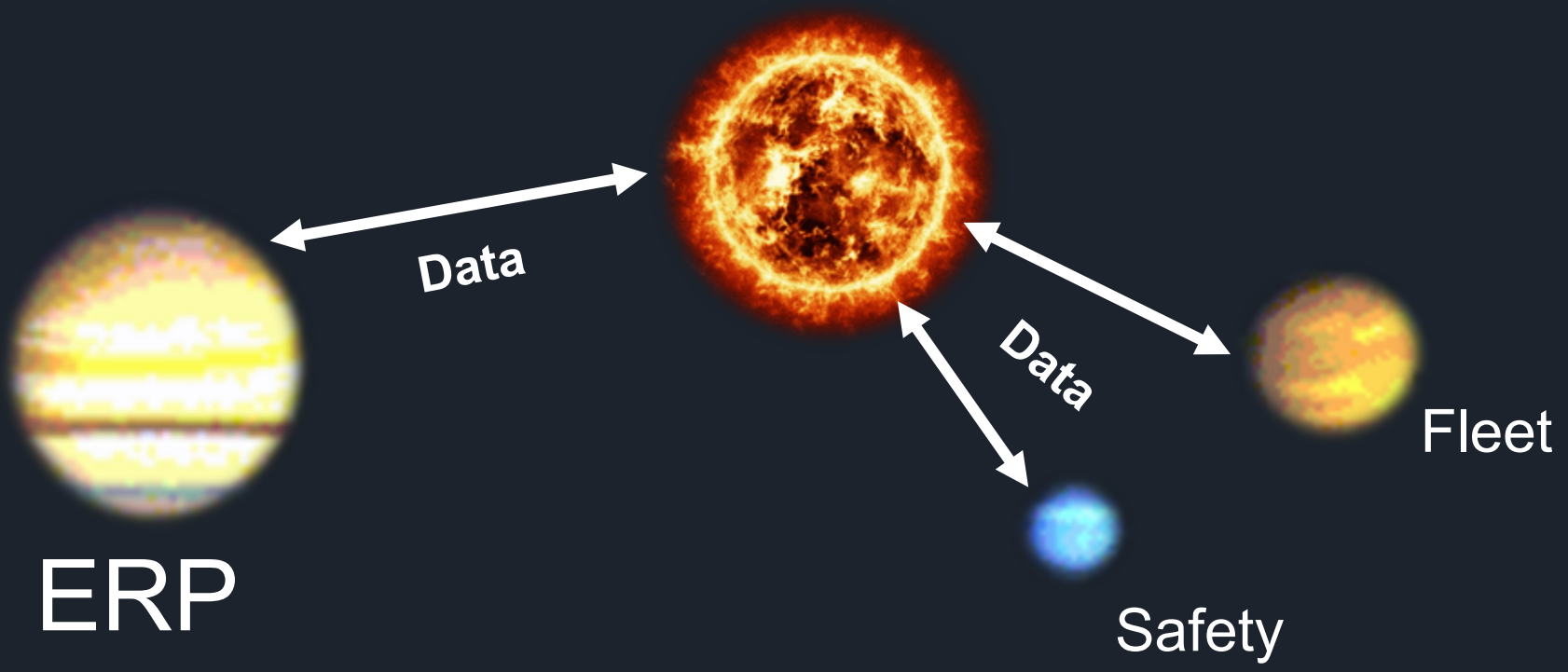

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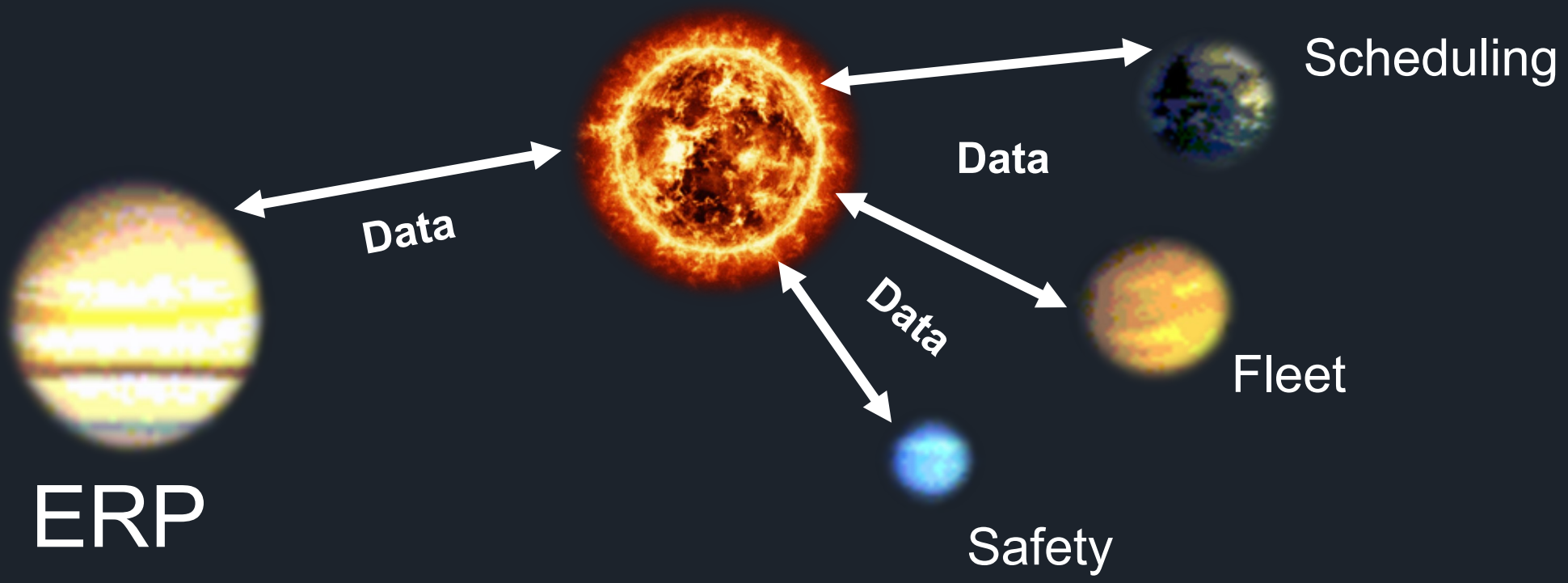

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BENEFITS OF DATA-CENTRICITY

REPORTING AND ANALYTICS

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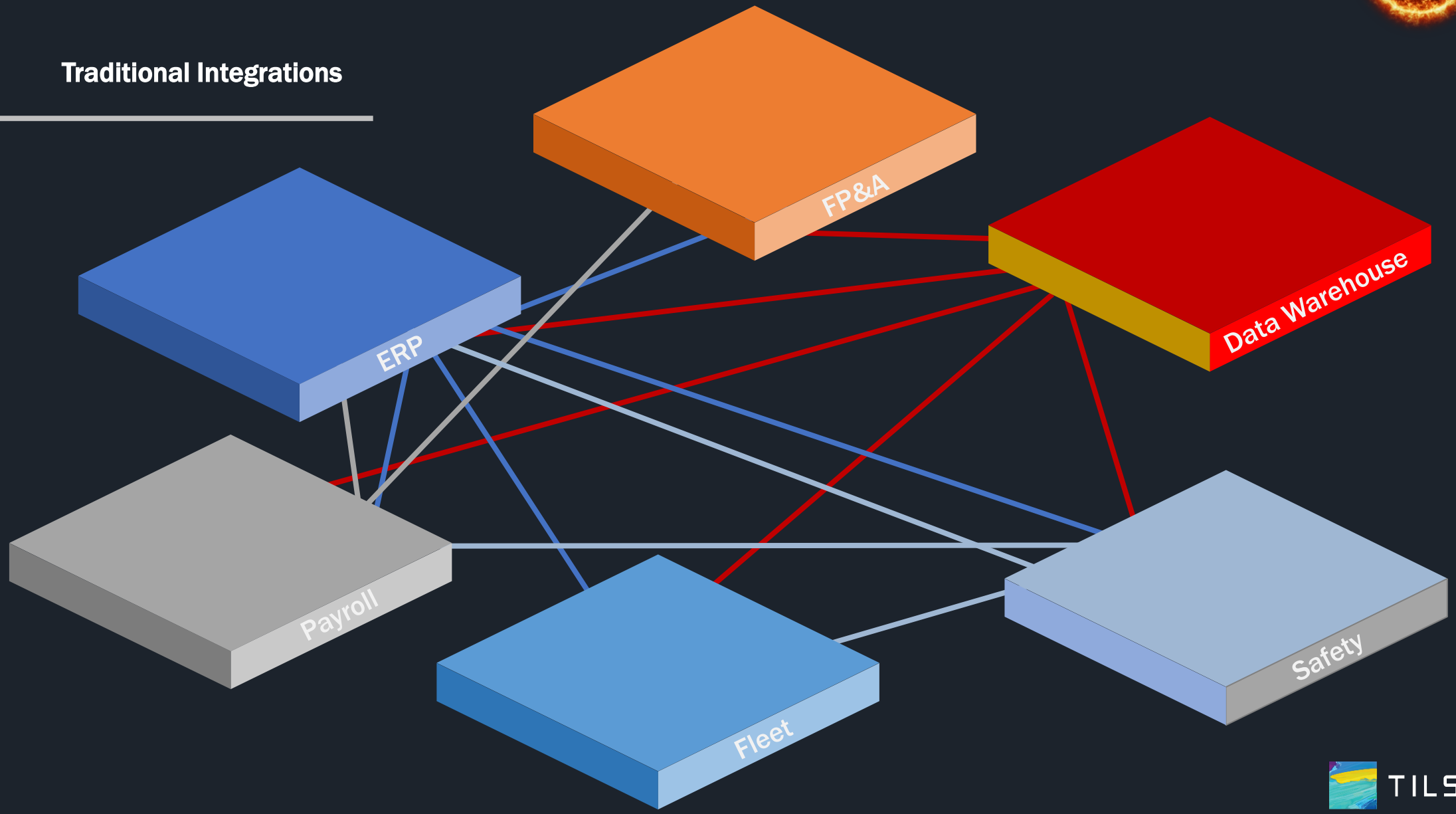
BENEFITS OF DATA-CENTRICITY

Traditional Integrations



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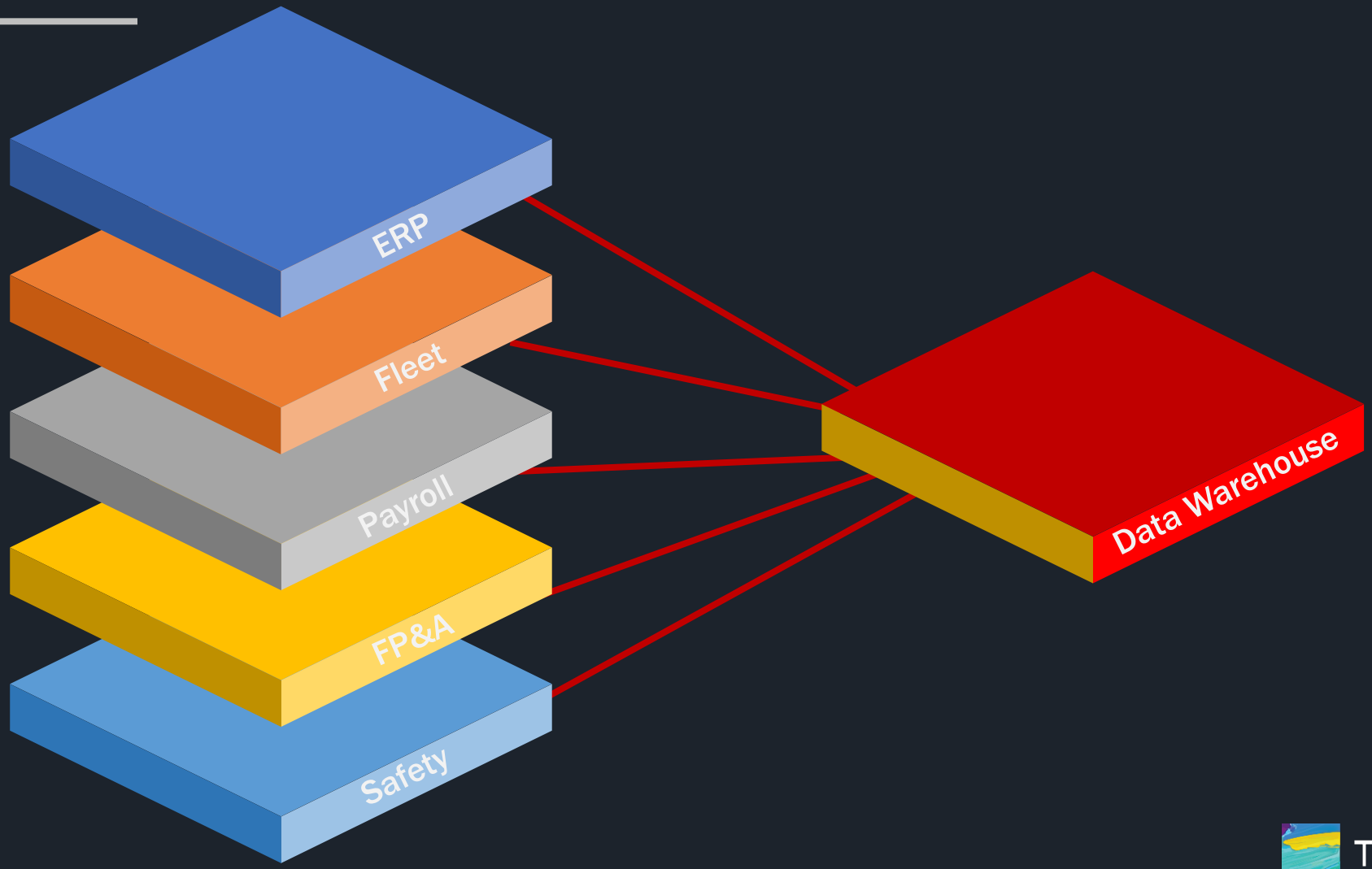
BENEFITS OF DATA-CENTRICITY

Emerging Integrations



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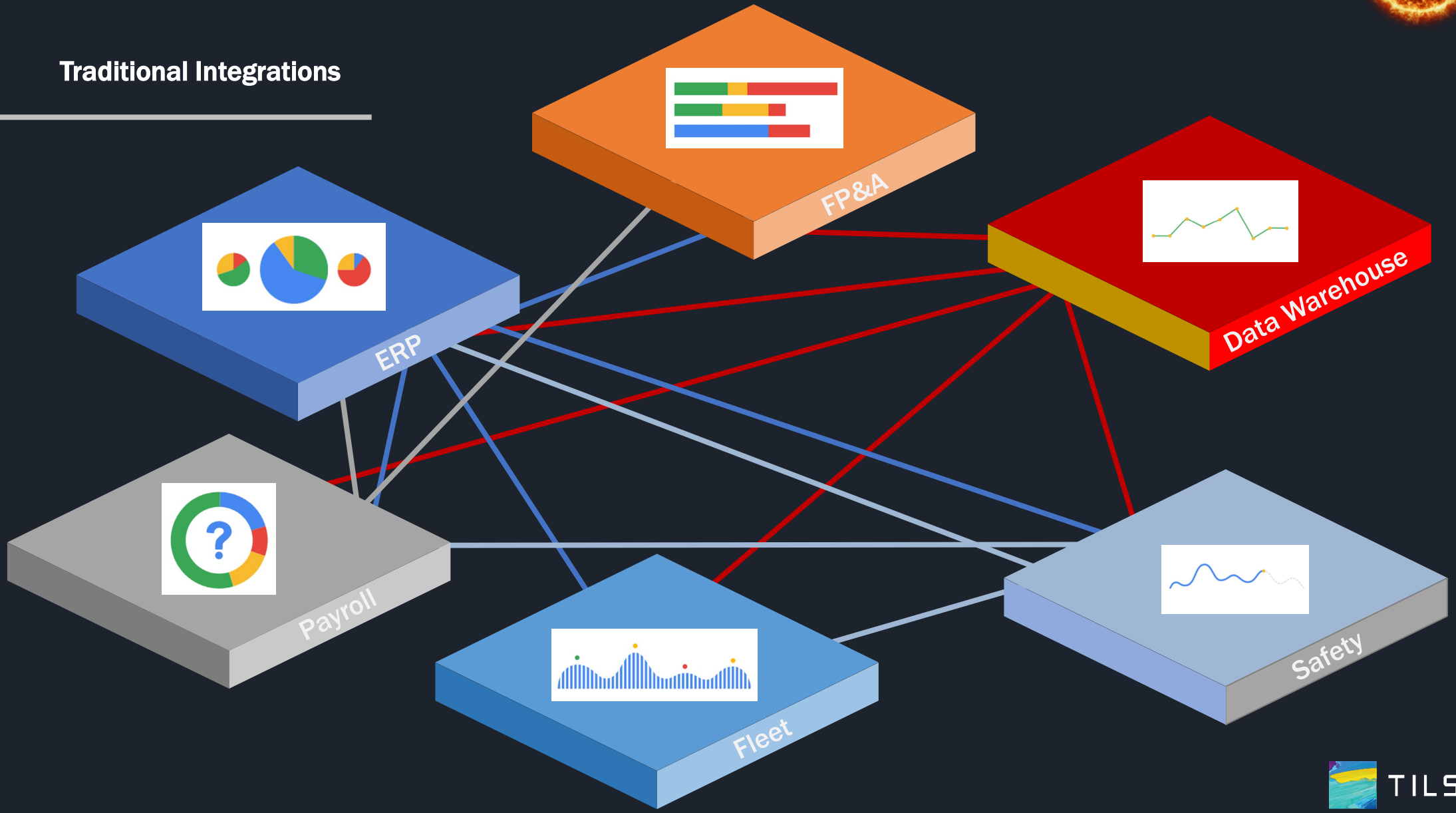
Traditional Integrations



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BENEFITS OF DATA-CENTRICITY

Emerging Integrations

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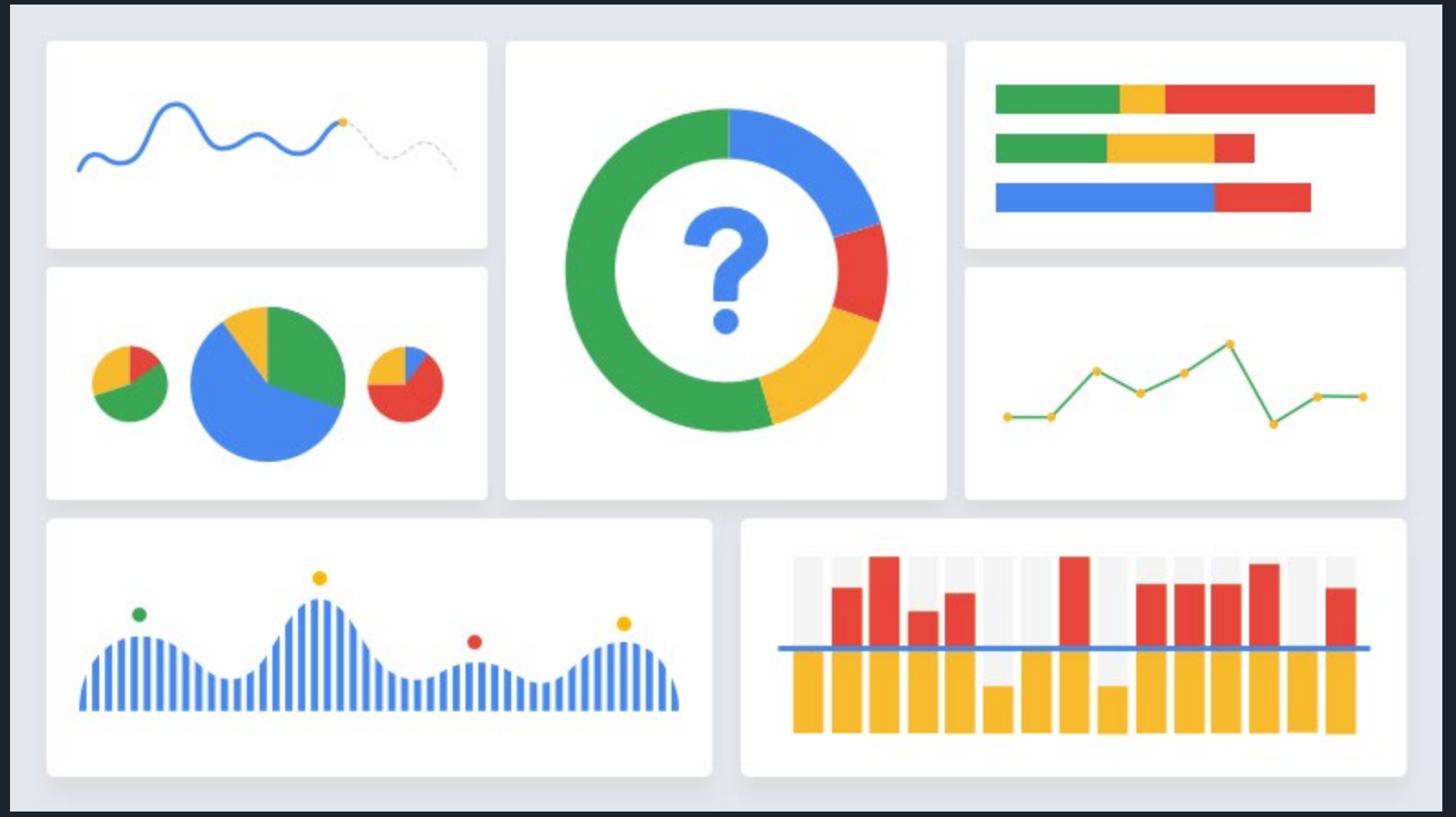

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BENEFITS OF DATA-CENTRICITY

Requires:

- Own “First to touch is first to enter”
- Own “Integrate only what is necessary”
- Own “Analytics is centralized reporting”

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BENEFITS OF DATA-CENTRICITY

Requires:

- Emotional Attachment to Systems/Applications
- Restrictions to Data Access*
- Data belongs to an application

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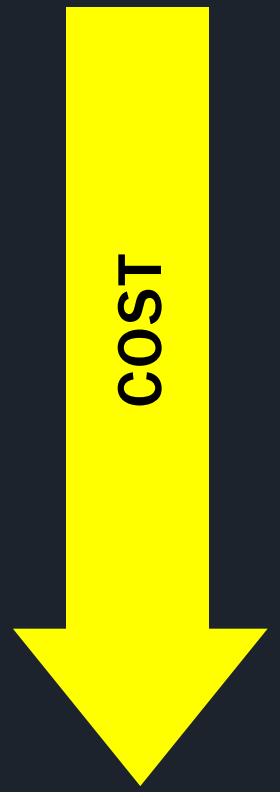
BENEFITS OF DATA-CENTRICITY

EFFICIENCY

QUALITY

SPEED



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CASE STUDY: SUCCESS STORIES OF DATA-CENTRIC TRANSFORMATION

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CASE STUDY: SUCCESS STORIES OF DATA-CENTRIC TRANSFORMATION

First 12 Months

Replace Data Warehouse

Replace BI Tool

Replace 12 systems with 1 ERP

Replace all Integrations

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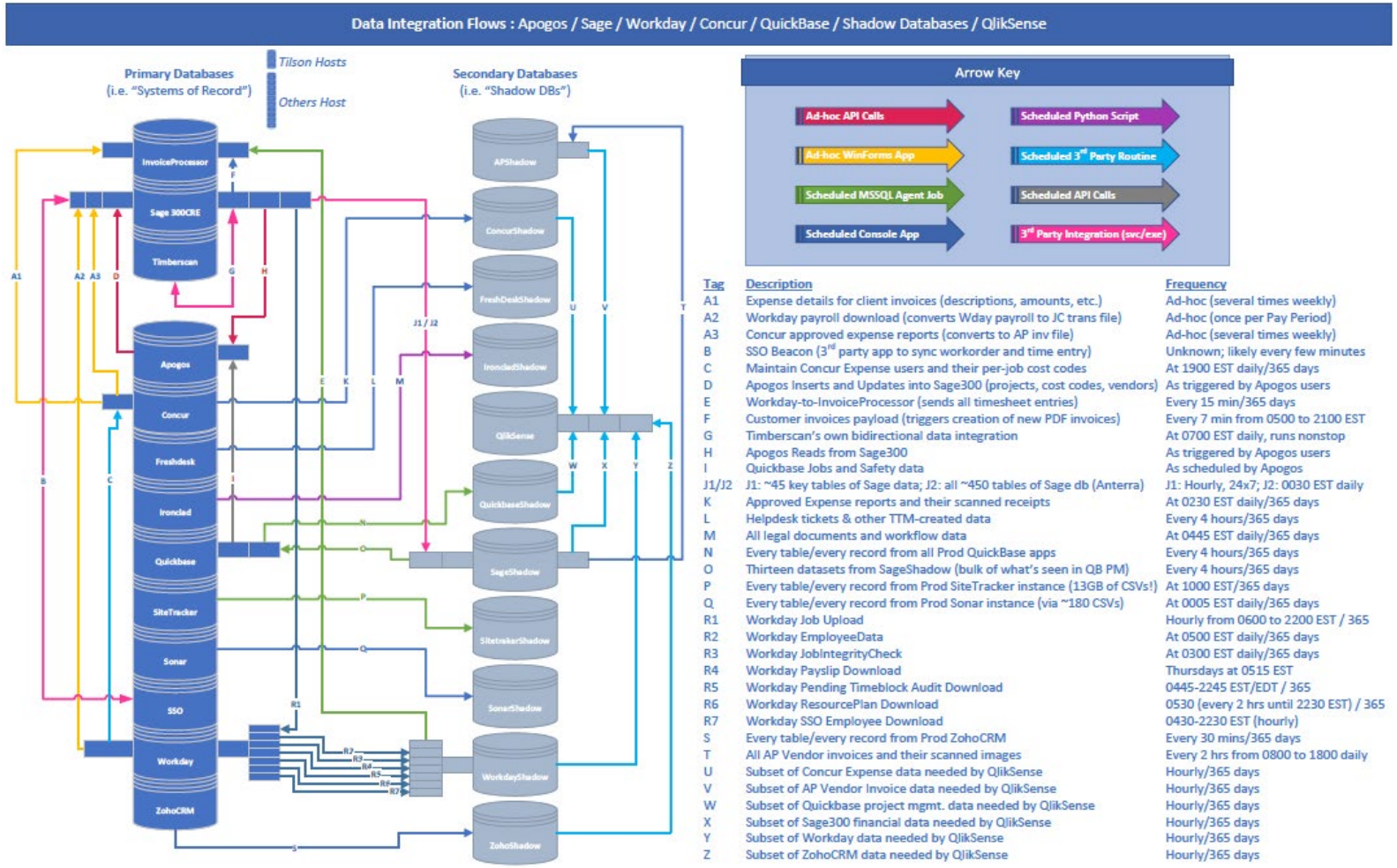
CASE STUDY: SUCCESS STORIES OF DATA-CENTRIC TRANSFORMATION



Tag	Description	Frequency
A1	Expense details for client invoices (descriptions, amounts, etc.)	Ad-hoc (several times weekly)
A2	Workday payroll download (converts Wday payroll to JC trans file)	Ad-hoc (once per Pay Period)
A3	Concur approved expense reports (converts to AP inv file)	Ad-hoc (several times weekly)
B	SSO Beacon (3rd party app to sync workorder and time entry)	Unknown; likely every few minutes
C	Maintain Concur Expense users and their per-job cost codes	At 1900 EST daily/365 days
D	Apogos Inserts and Updates into Sage300 (projects, cost codes, vendors)	As triggered by Apogos users
E	Workday-to-InvoiceProcessor (sends all timesheet entries)	Every 15 min/365 days
F	Customer invoices payload (triggers creation of new PDF invoices)	Every 7 min from 0500 to 2100 EST
G	Timberscan's own bidirectional data integration	At 0700 EST daily, runs nonstop
H	Apogos Reads from Sage300	As triggered by Apogos users
I	Quickbase Jobs and Safety data	As scheduled by Apogos
J1/J2	J1: ~45 key tables of Sage data; J2: all ~450 tables of Sage db (Anterra)	J1: Hourly, 24x7; J2: 0030 EST daily
K	Approved Expense reports and their scanned receipts	At 0230 EST daily/365 days
L	Helpdesk tickets & other TTM-created data	Every 4 hours/365 days
M	All legal documents and workflow data	At 0445 EST daily/365 days
N	Every table/every record from all Prod QuickBase apps	Every 4 hours/365 days
O	Thirteen datasets from SageShadow (bulk of what's seen in QB PM)	Every 4 hours/365 days
P	Every table/every record from Prod SiteTracker instance (13GB of CSVs!)	At 1000 EST/365 days
Q	Every table/every record from Prod Sonar instance (via ~180 CSVs)	At 0005 EST daily/365 days
R1	Workday Job Upload	Hourly from 0600 to 2200 EST / 365
R2	Workday EmployeeData	At 0500 EST daily/365 days
R3	Workday JobIntegrityCheck	At 0300 EST daily/365 days
R4	Workday Payslip Download	Thursdays at 0515 EST
R5	Workday Pending Timeblock Audit Download	0445-2245 EST/EDT / 365
R6	Workday ResourcePlan Download	0530 (every 2 hrs until 2230 EST) / 365
R7	Workday SSO Employee Download	0430-2230 EST (hourly)
S	Every table/every record from Prod ZohoCRM	Every 30 mins/365 days
T	All AP Vendor invoices and their scanned images	Every 2 hrs from 0800 to 1800 daily
U	Subset of Concur Expense data needed by QlikSense	Hourly/365 days
V	Subset of AP Vendor Invoice data needed by QlikSense	Hourly/365 days
W	Subset of Quickbase project mgmt. data needed by QlikSense	Hourly/365 days
X	Subset of Sage300 financial data needed by QlikSense	Hourly/365 days
Y	Subset of Workday data needed by QlikSense	Hourly/365 days
Z	Subset of ZohoCRM data needed by QlikSense	Hourly/365 days

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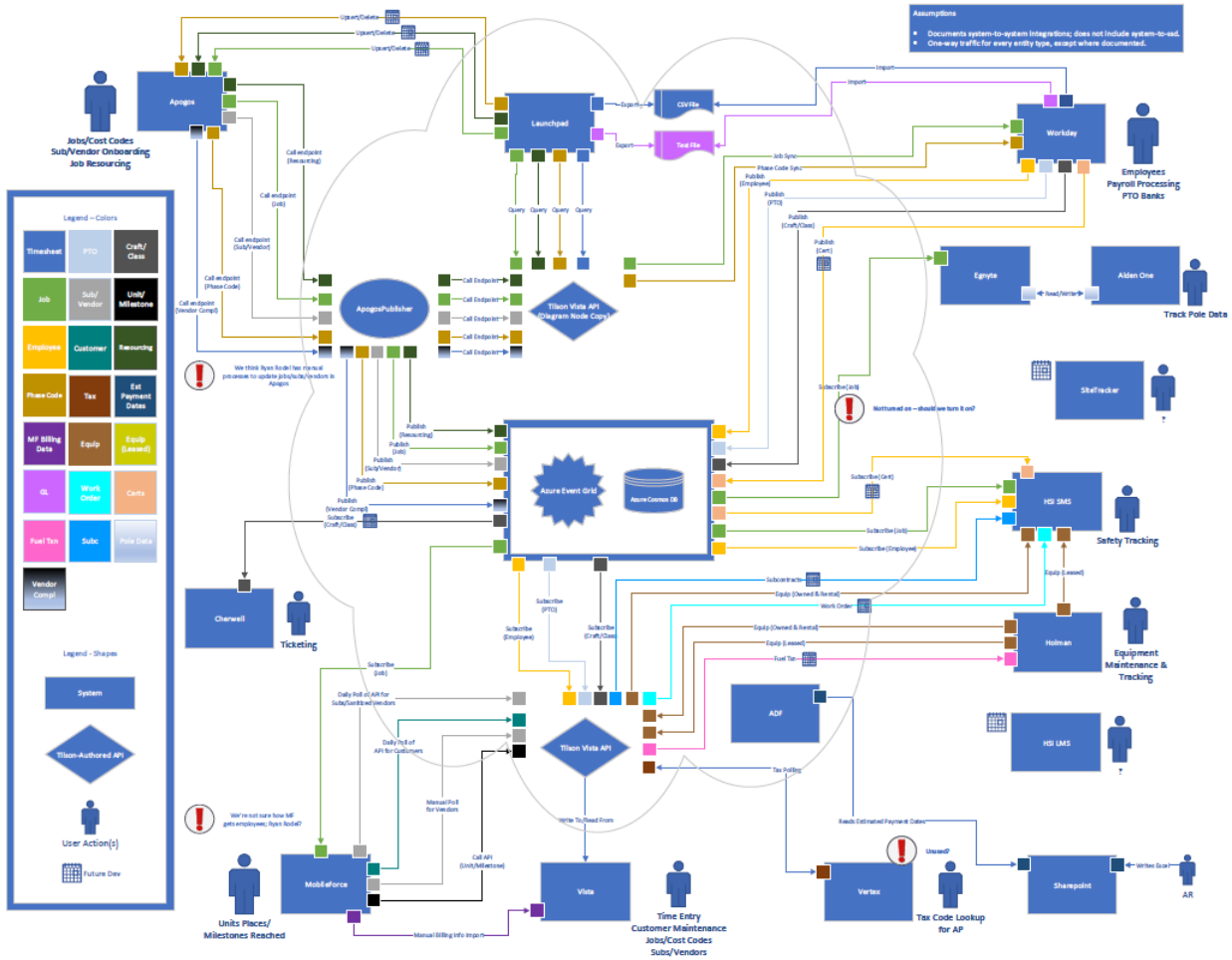
CASE STUDY: SUCCESS STORIES OF DATA-CENTRIC TRANSFORMATION



CASE STUDY: SUCCESS STORIES OF DATA-CENTRIC TRANSFORMATION

PRE DATA-CENTRIC	POST DATA-CENTRIC
NEW APPLICATION SAME DATA	
• Time to Deploy Integrations: **10 Weeks** • Time to Deploy Analytics: **8 Weeks**	• Time to Deploy Integrations: **2 Weeks** • Time to Deploy Analytics: **2 Weeks**
TOTAL ACCOMPLISHED IN 12 MONTH TIME	
• New Integrated Systems: **2 Systems** • Analytics: **41 (unique uncombined data)**	• New Integrated Systems: **8 Systems** • Analytics: **96 (unique, combined data)**

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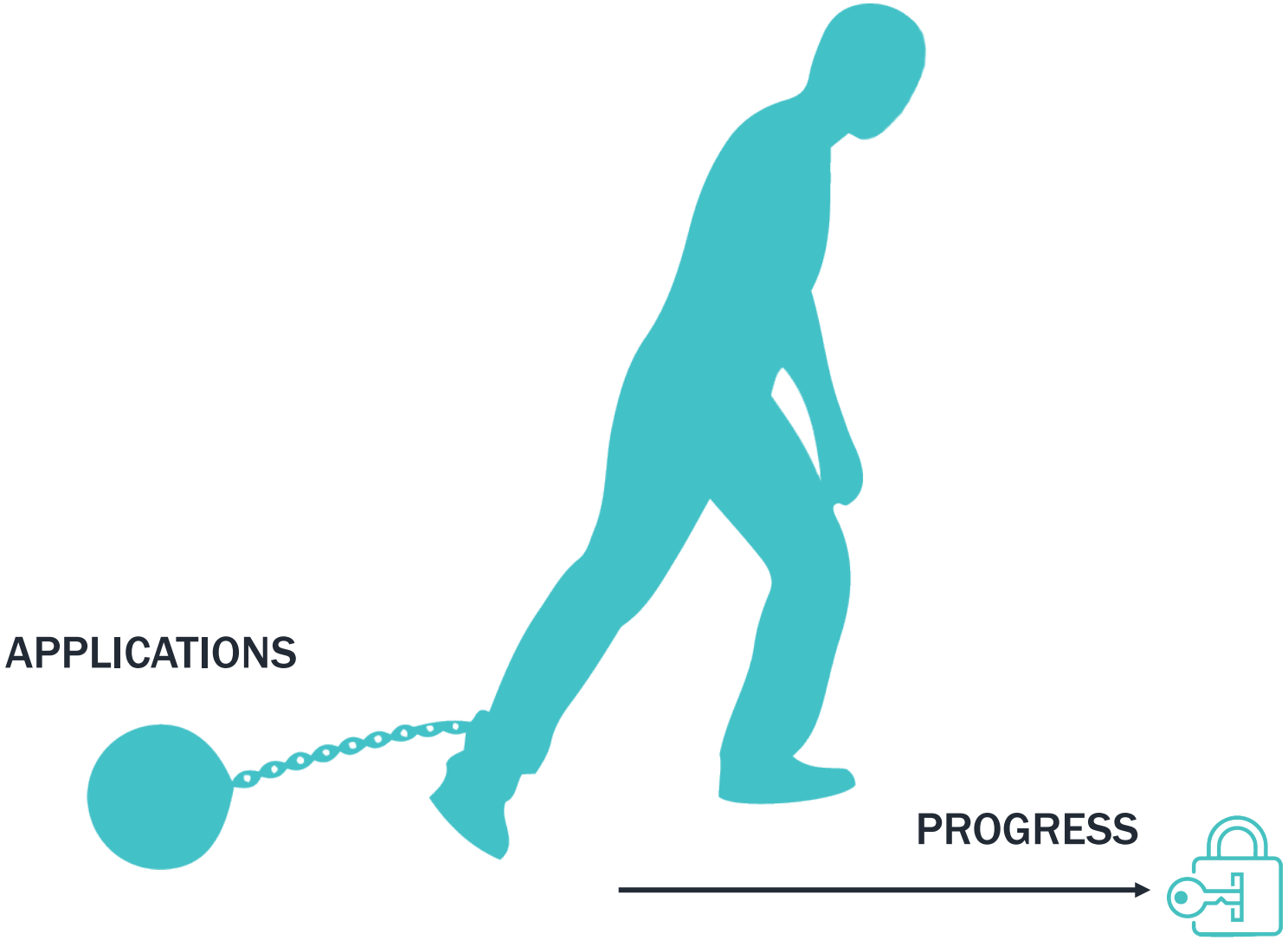
FUTURE PROOFING CONSTRUCTION OPERATIONS



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FUTURE PROOFING CONSTRUCTION OPERATIONS

FLEXIBLE INTEGRATIONS

CENTRALIZED DATA

APPLICATION AGNOSTIC

THE FUTURE

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BENEFITS OF DATA-CENTRICITY

UNSTRUCTURED DATA REQUIREMENTS

AI

Robotics

Wearables

BIM

Predictive Analytics

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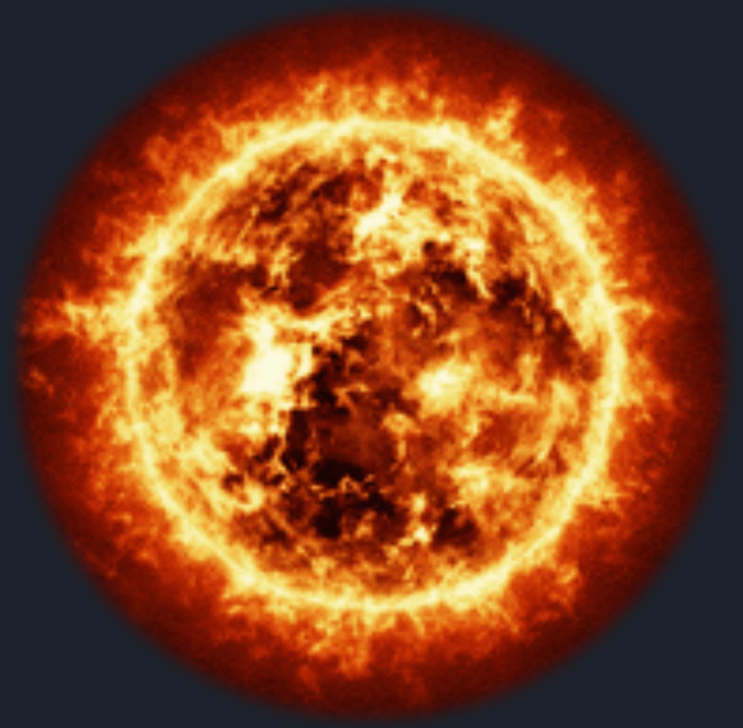
Q&A



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KEY TAKEAWAYS / HOW TO GET STARTED

HOW TO GET STARTED:

- Establish a Data warehouse
- Begin building a new integrations framework moving away from App to App
- Build new reports to replace old reports in a central BI platform
- Enjoy the freedom

KEY TAKEAWAYS:

- Leave emotion at the door when it comes to your Applications
- Adopt a Data is essential strategy
- Creating a Data-Centric Technology Framework = Adaptability

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THANK YOU

Jason Burns, CIO

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www.tilsontech.com