

2020 Vision: Legacy vs. Next-Gen Routing Software

Presented by:

Erich Wolters
VP, Wise Systems



POWERED BY POSSIBILITIES.



powered by  MHI



POWERED BY POSSIBILITIES.



POWERED BY POSSIBILITIES.

1



POWERED BY POSSIBILITIES.

2



POWERED BY POSSIBILITIES.

3



POWERED BY POSSIBILITIES.

4



POWERED BY POSSIBILITIES.

5



6



**The customer
experience bar has
been raised.**



POWERED BY POSSIBILITIES.

Introductions



Erich Wolters
VP, Wise Systems

Speaker email:
ewolters@wisesystems.com

Website:
www.wisesystems.com

MODEX Booth #6378

What Are Your Operational Goals? For 2020 and Beyond?

Business growth & flexibility

Maximum efficiency

Fleet utilization

High quality-customer service



POWERED BY POSSIBILITIES.

**Routing plays a critical role in
creating capacity and ensuring
business growth**

**Genuinely successful
transportation operations require
new enabling technologies**



POWERED BY POSSIBILITIES.

Industry Trends: Driving New Routing Tech Adoption

Business Pressures

- Rising transportation costs
- Aging workforce and driver turnover
- Traditional systems
- Expanded delivery footprint & SKU proliferation

Industry Trends: Driving New Routing Tech Adoption

Business Pressures

- Rising transportation costs
- Aging workforce and driver turnover
- Traditional systems
- Expanded delivery footprint & SKU proliferation



External Factors

- Surge in urban congestion
- Last-mile complexity
- Rising consumer expectations (The Amazon Effect)
- E-commerce growth
- New regulations (e.g., ELD mandate)

Industry Trends: Driving New Routing Tech Adoption

Business Pressures

- Rising transportation costs
- Aging workforce and driver turnover
- Traditional systems
- Expanded delivery footprint & SKU proliferation



External Factors

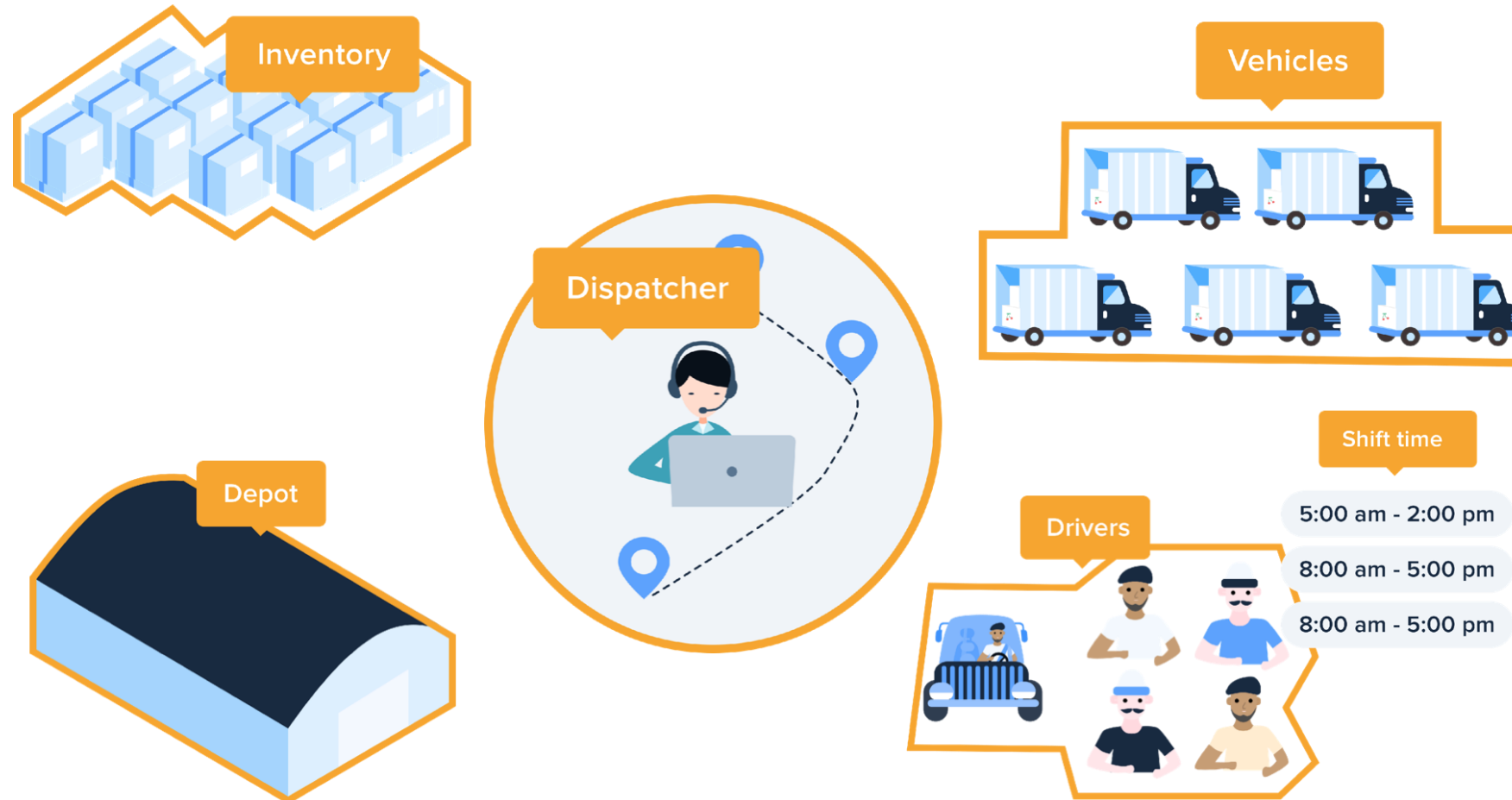
- Surge in urban congestion
- Last-mile complexity
- Rising consumer expectations (The Amazon Effect)
- E-commerce growth
- New regulations (e.g., ELD mandate)



Technology Advances

- Abundance of transportation data and analysis tools available
- Ubiquity of mobile devices
- Shift from on-premise software to cloud-based solutions
- AI & machine learning

Typical Delivery Operation





MIXED DELIVERY DAY

11 scheduled deliveries

3 on-demand orders

POWERED BY POSSIBILITIES.

🕒 5:00 PM

On time

On time

Late

Late

Late

Late

On time

Late

On time

On time

Late

Late

Late

6 on time deliveries

8 late deliveries



POWERED BY POSSIBILITIES.



A SUCCESSFUL DAY

14 on-time deliveries

0 late deliveries

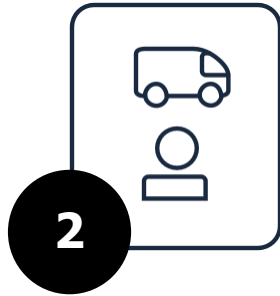
A mix of scheduled and
on-demand orders

POWERED BY POSSIBILITIES.

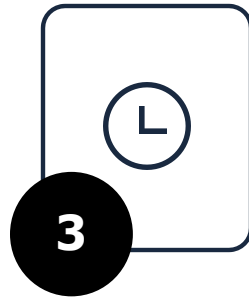
What is Involved in the Routing Process?



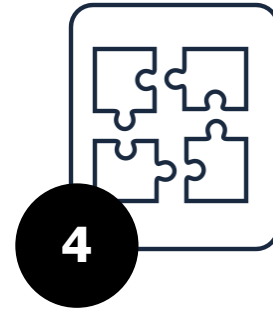
Orders



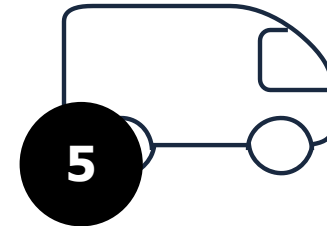
Resources



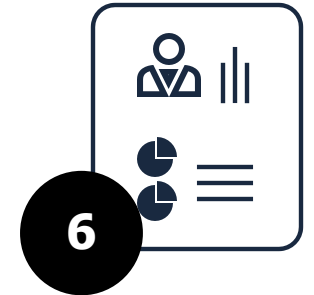
Constraints



Plans



Manage Plan -
Day of Delivery



Post-Execution
Analysis

Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software



Various Approaches to Routing

1. **Manual Routing**
2. Legacy Routing Software
3. Next-Gen Routing Software

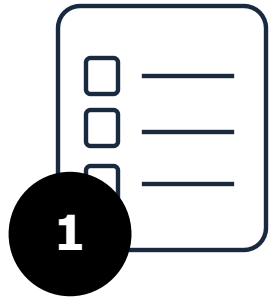


POWERED BY POSSIBILITIES.

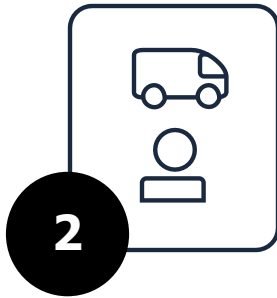
Manual Routing

Not software-supported and remains in use due to inertia

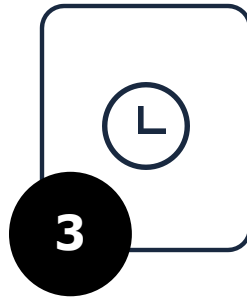
What's involved?



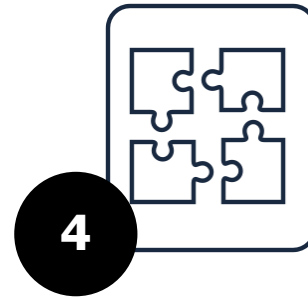
Orders



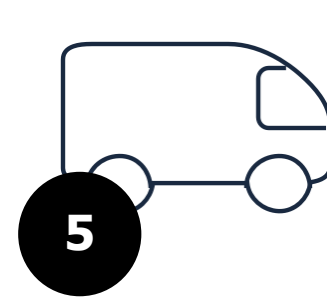
Resources



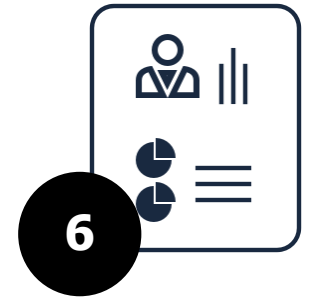
Constraints



Plans



Manage Plan -
Day of Delivery



Post-Execution
Analysis

Manual Routing

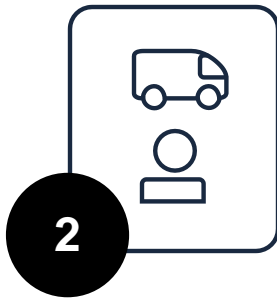
Not software-supported and remains in use due to inertia

What's involved?



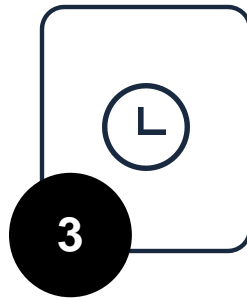
Orders

- Phone calls
- Paper & pen
- Excel sheet
- Email
- Text message
- Fax



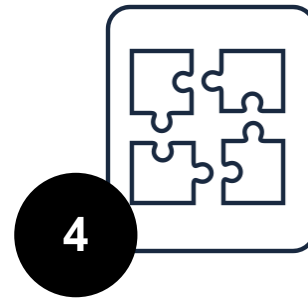
Resources

- Vehicles
- Drivers



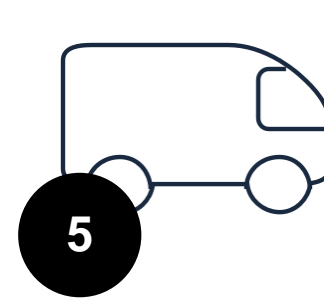
Constraints

- Time Windows
- Vehicle limits
- Shift hours



Plans

- Pen & Paper
- Excel
- Physical Maps
- One to two core people manage process



Manage Plan - Day of Delivery

- Calls/text to drivers to check on ETA
- Call/text customers



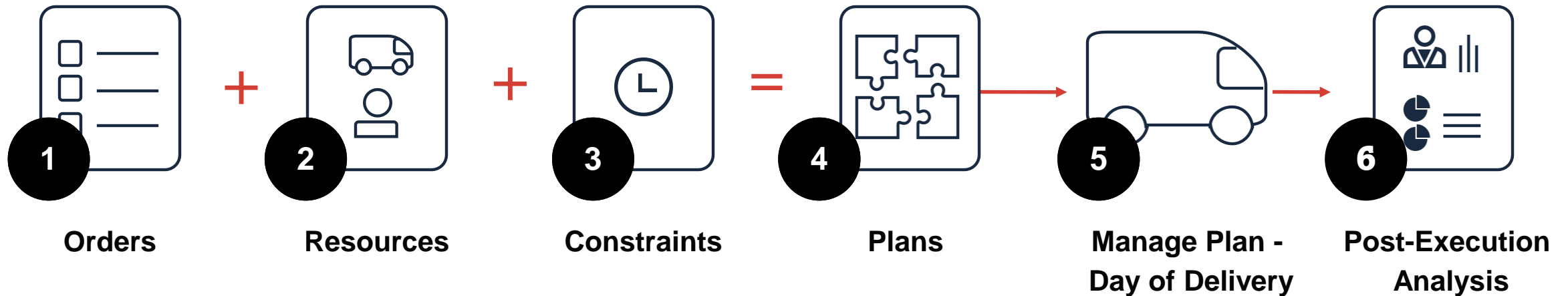
Post-Execution Analysis

- No easy way to verify delivery execution

Manual Routing

The process

What's involved?

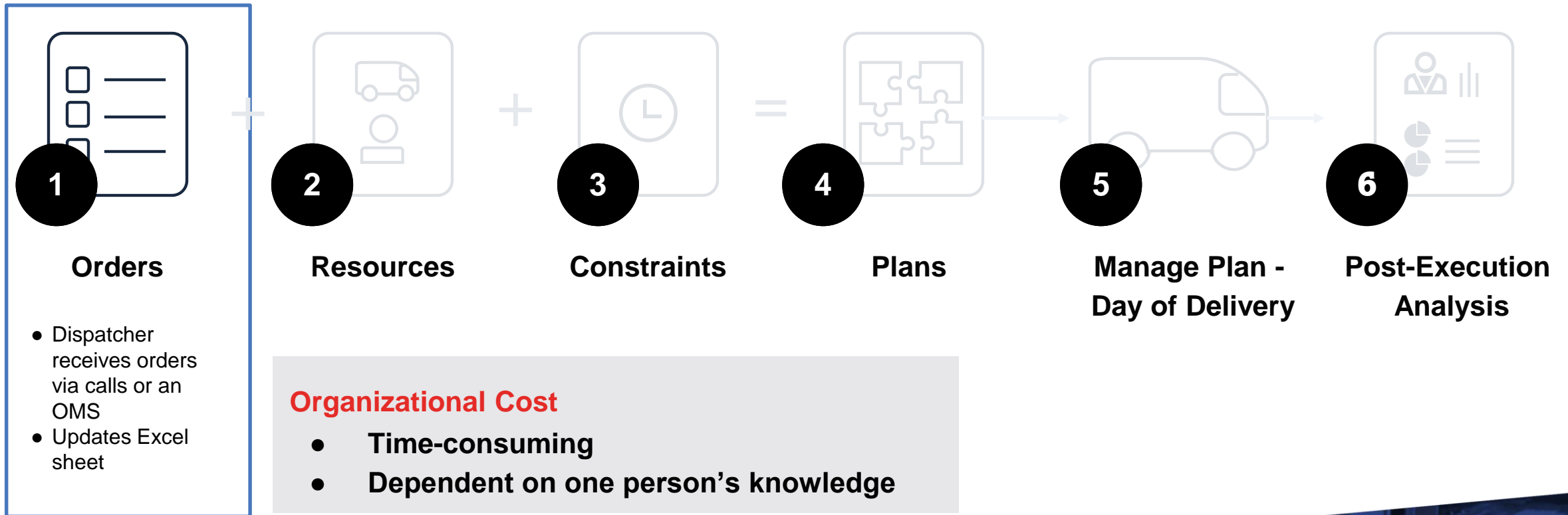


Usually takes hours/days to plan
Not streamlined
Relies on one or more people (organizational risk)

Manual Routing

The process

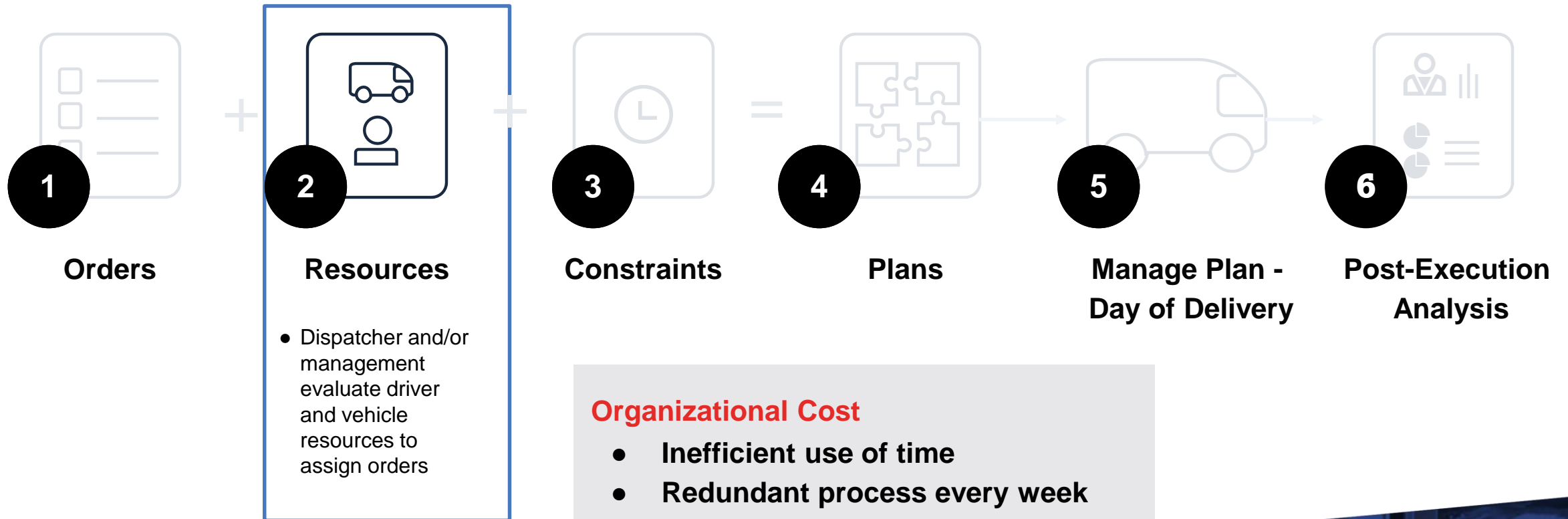
What's involved?



Manual Routing

The process

What's involved?

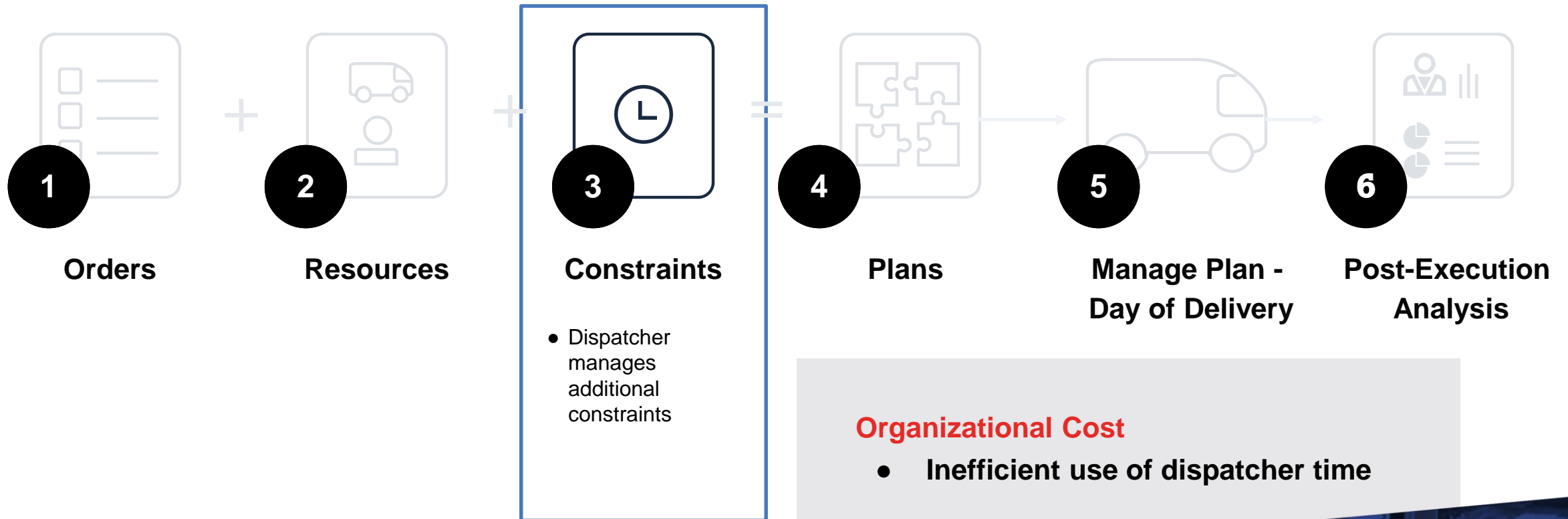


POWERED BY POSSIBILITIES.

Manual Routing

The process

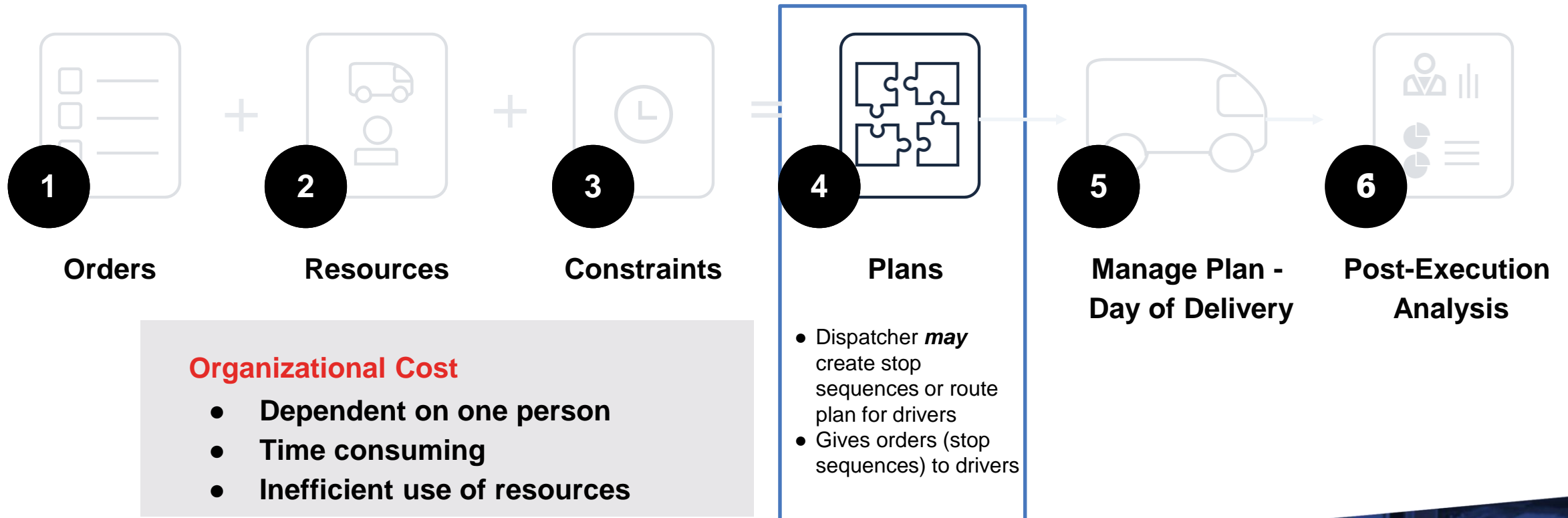
What's involved?



Manual Routing

The process

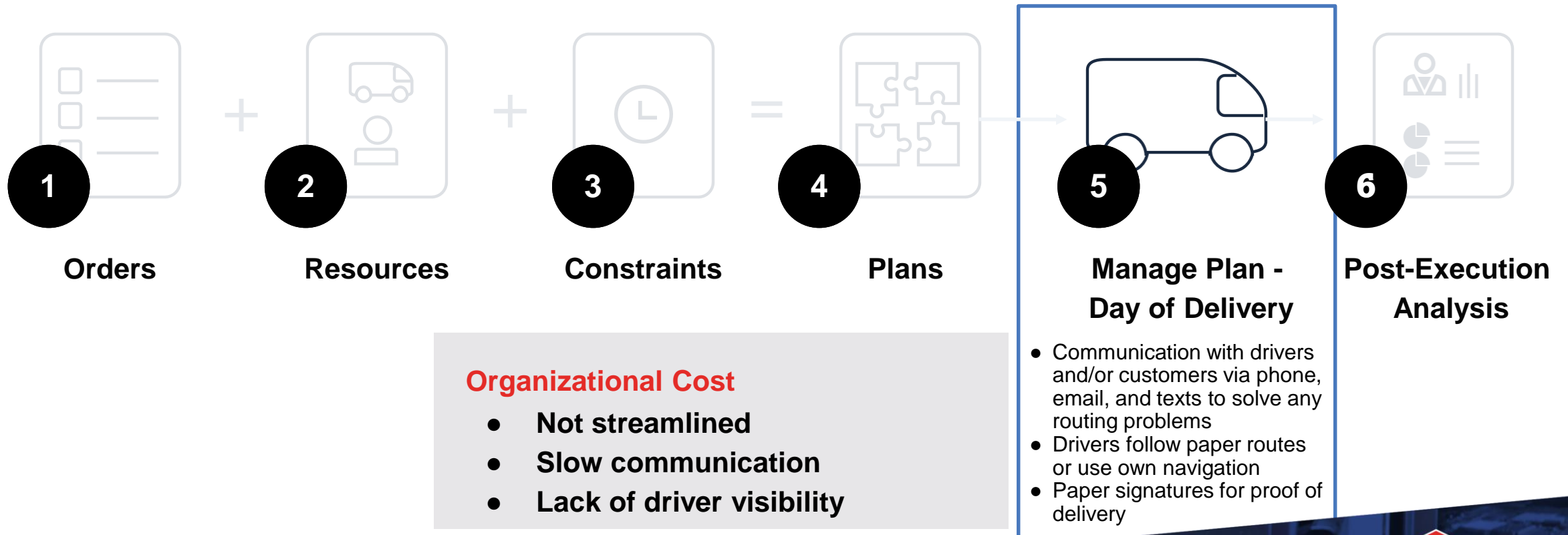
What's involved?



Manual Routing

The process

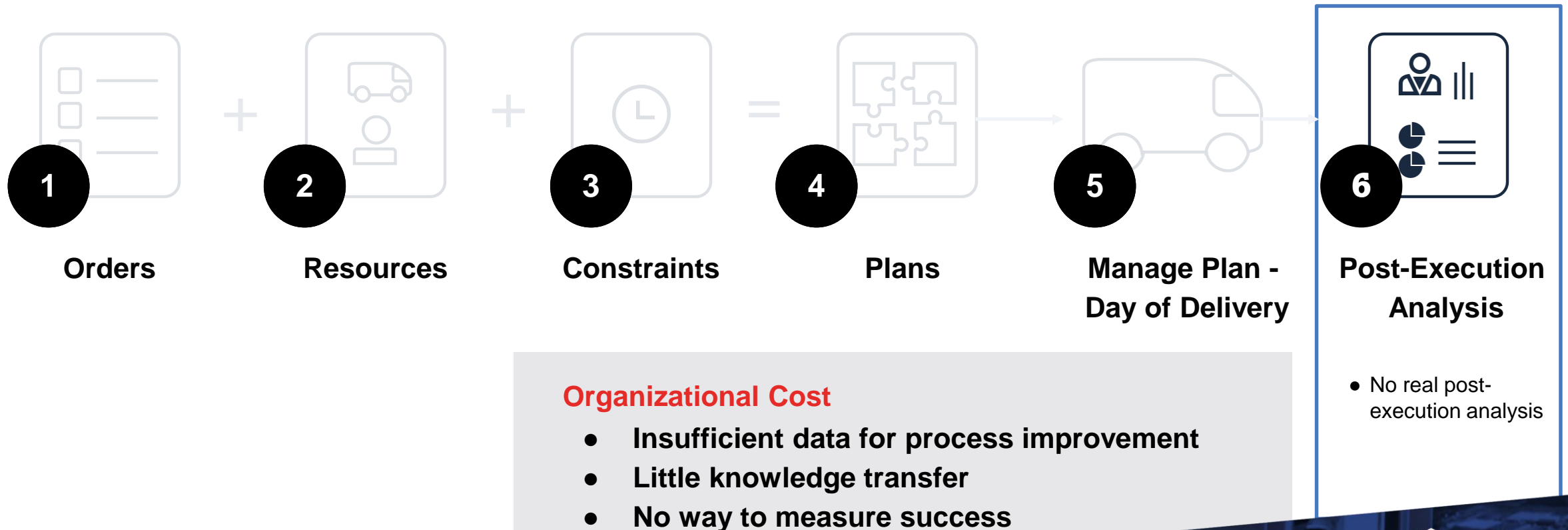
What's involved?



Manual Routing

The process

What's involved?



Manual Routing | Limitations, Costs & Benefits

- ⦿ Reliability and on-time performance
- ⦿ Dependent on expert router, very familiar with the industry/market
- ⦿ Relies on one or more people (organizational risk)
- ⦿ Inefficient use of resources
- ⦿ Difficult to measure success



Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software



Various Approaches to Routing

1. Manual Routing
2. **Legacy Routing Software**
3. Next-Gen Routing Software



Legacy Routing Software

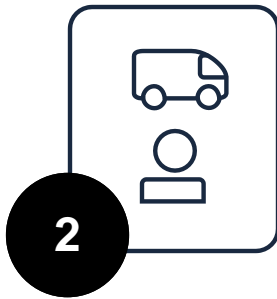
On-premise software that has been in use for 15-20 years.

What's involved?



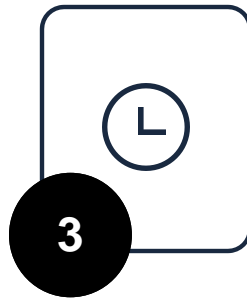
1

Orders



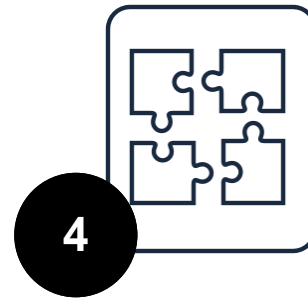
2

Resources



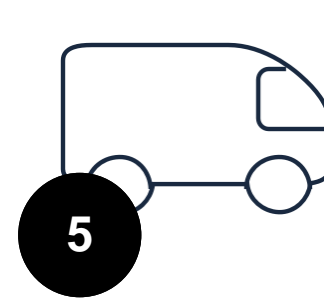
3

Constraints



4

Plans



5

Manage Plan -
Day of Delivery



6

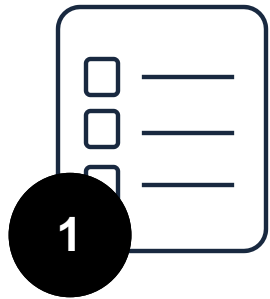
Post-Execution
Analysis

POWERED BY POSSIBILITIES.

Legacy Routing Software

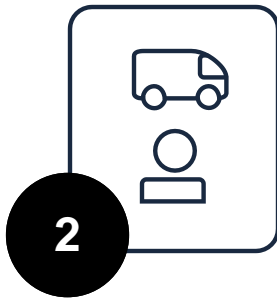
On-premise software that has been in use for 15-20 years.

What's involved?



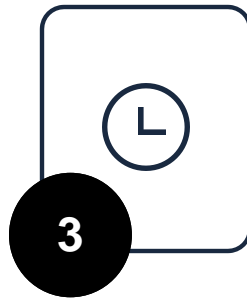
Orders

- Excel sheet
- API



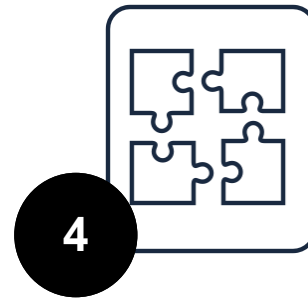
Resources

- Vehicles
- Drivers



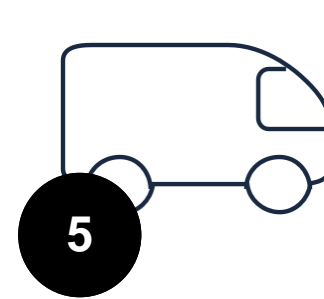
Constraints

- Time Windows
- Vehicle limits
- Shift hours



Plans

- Online map
- "Manual route smoothing"
- Business relies on one or more people in operations



Manage Plan - Day of Delivery

- Calling/texting Drivers to check on ETA
- Calling/texting customers
- Using a different solution for visibility



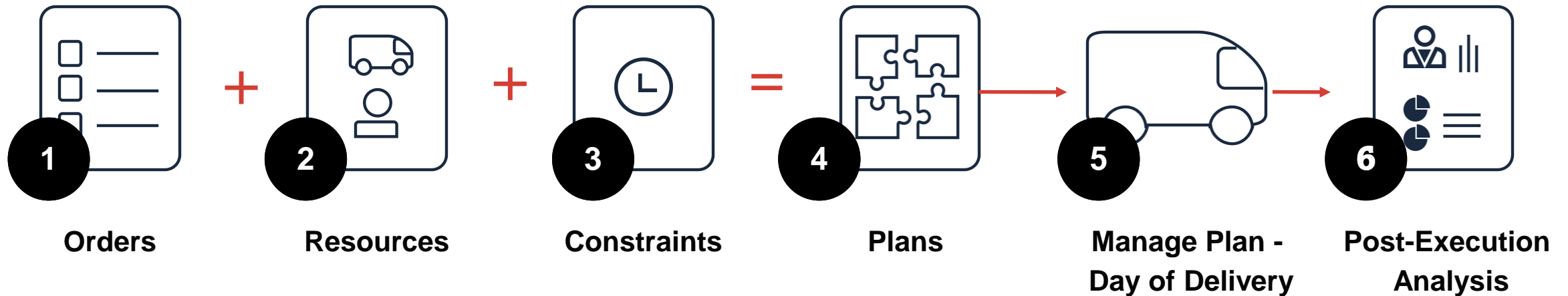
Post-Execution Analysis

- Manually track KPIs

Legacy Routing Software

The process

What's involved?



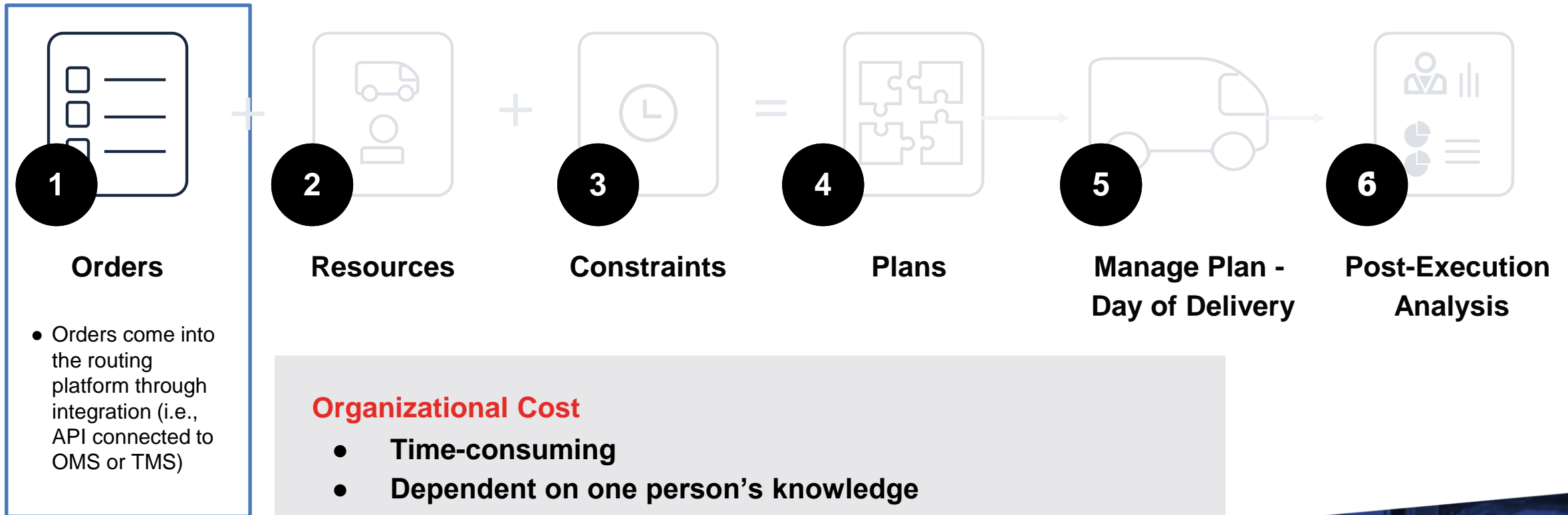
Common in the industry
Outdated
Not streamlined
Lack of innovation

POWERED BY POSSIBILITIES.

Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What's involved?



POWERED BY POSSIBILITIES.

Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What's involved?

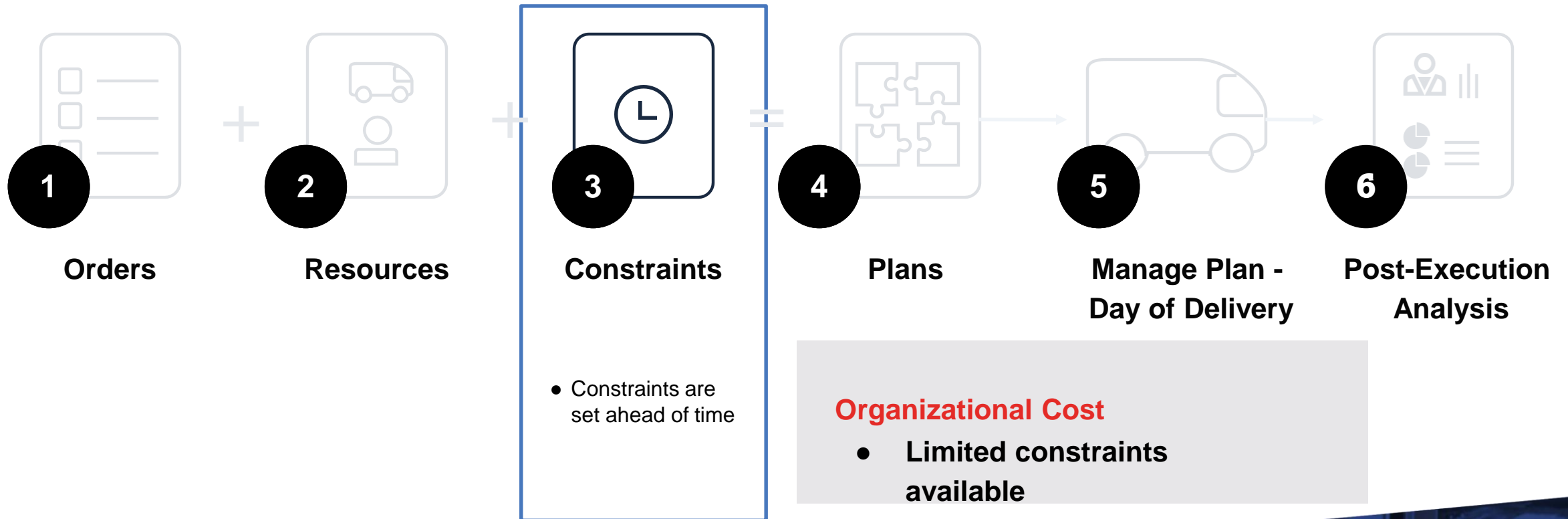


POWERED BY POSSIBILITIES.

Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What's involved?

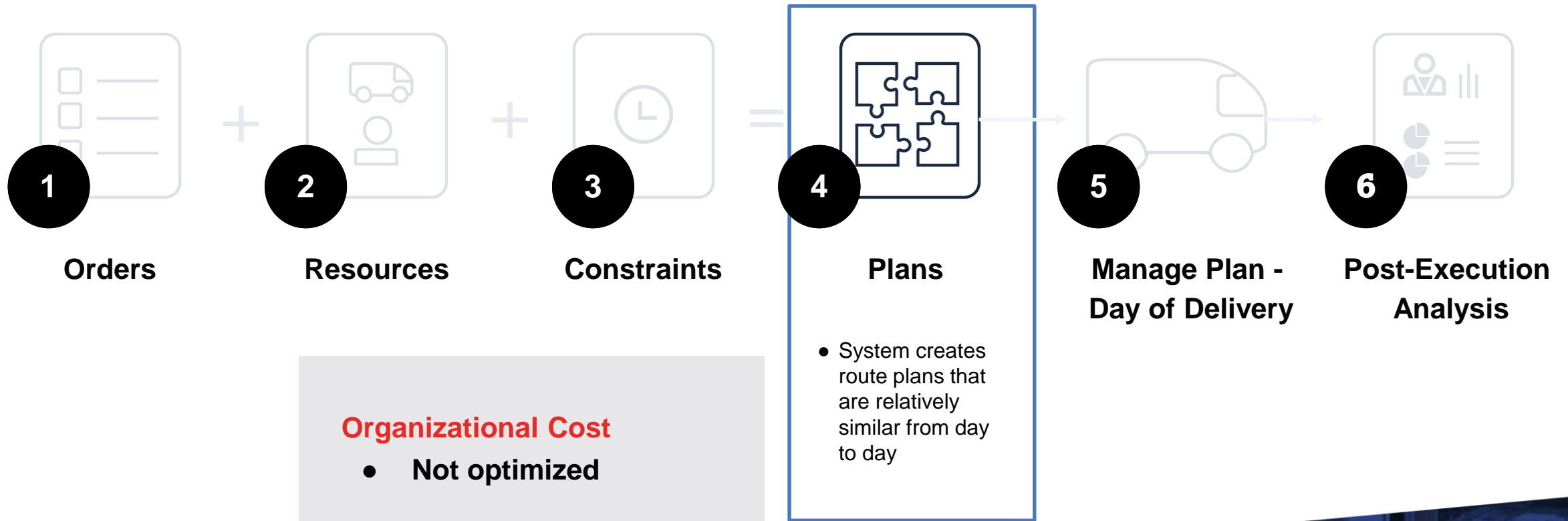


POWERED BY POSSIBILITIES.

Legacy Routing Software

On-premise software that has been in use for 15-20 years.

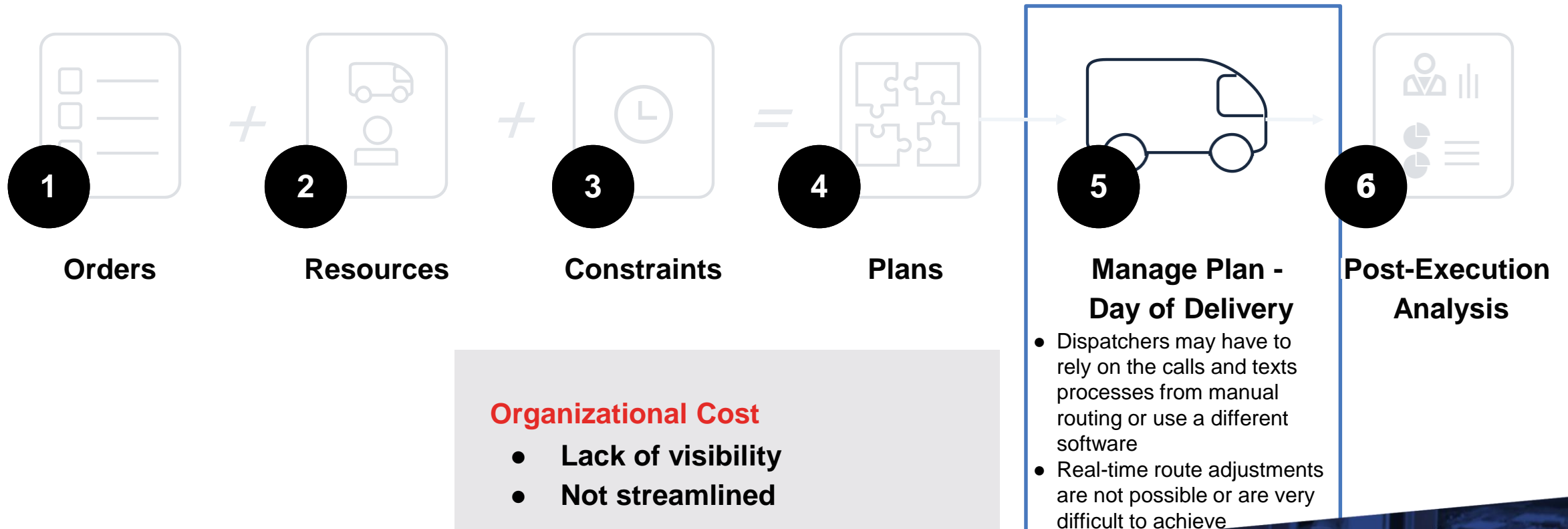
What's involved?



Legacy Routing Software

On-premise software that has been in use for 15-20 years.

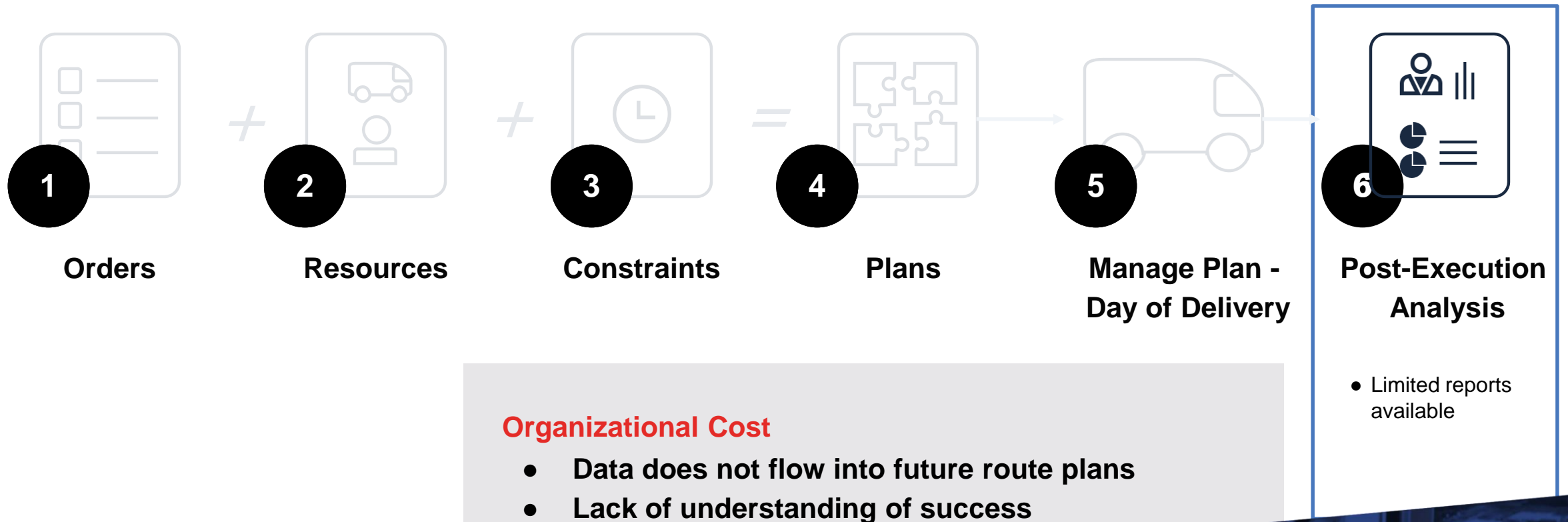
What's involved?



Legacy Routing Software

On-premise software that has been in use for 15-20 years.

What's involved?



POWERED BY POSSIBILITIES.

Legacy Routing | Limitations, Costs & Benefits

- ⦿ Known process
- ⦿ Little automation
- ⦿ Multiple tools
- ⦿ Not cloud-first
- ⦿ Not real-time
- ⦿ Outdated user experience
- ⦿ No continuous improvement



Various Approaches to Routing

1. Manual Routing
2. Legacy Routing Software
3. Next-Gen Routing Software



Various Approaches to Routing

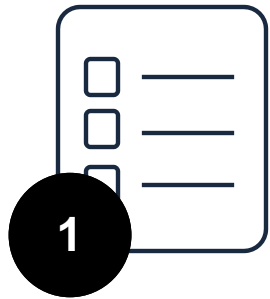
1. Manual Routing
2. Legacy Routing Software
3. **Next-Gen Routing Software**



Next-Gen Routing Software

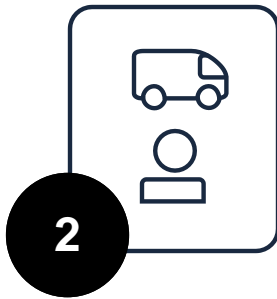
Automatically builds route plans to maximize customer service and efficiency using machine learning algorithms to continuously improve fleet performance over time.

What's involved?



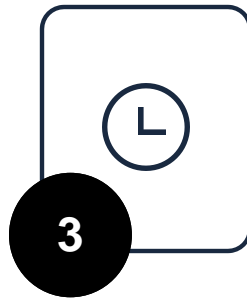
1

Orders



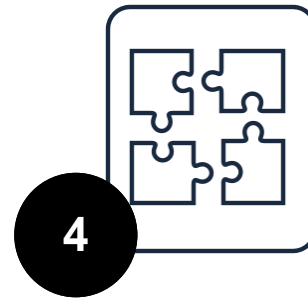
2

Resources



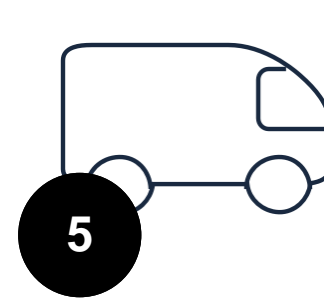
3

Constraints



4

Plans



5

Manage Plan -
Day of Delivery



6

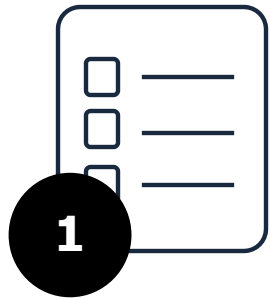
Post-Execution
Analysis

POWERED BY POSSIBILITIES.

Next-Gen Routing Software

Automatically builds route plans to maximize customer service and efficiency using machine learning algorithms to continuously improve fleet performance over time.

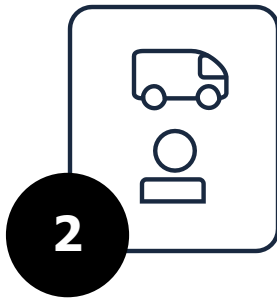
What's involved?



1

Orders

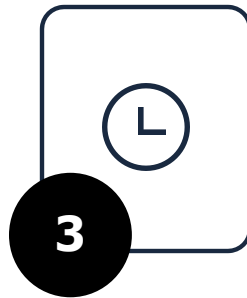
- Automated process
- Swift, up-to-date



2

Resources

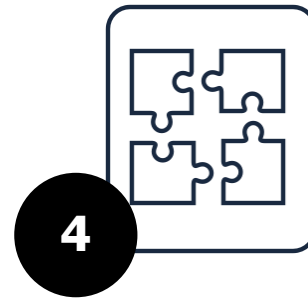
- Vehicles
- Drivers



3

Constraints

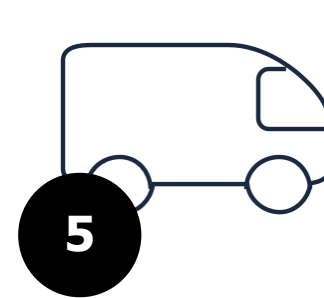
- Time Windows
- Vehicle limits
- Shift hours



4

Plans

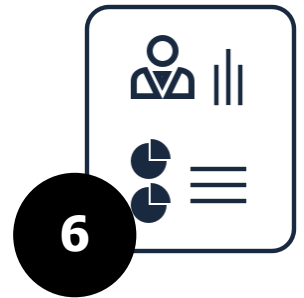
- Automated process
- Stress-free
- “Auto-pilot”



5

Manage Plan - Day of Delivery

- Complete visibility of team on the ground
- Automatic updates to customers
- Automatic updates to sales team following orders



6

Post-Execution Analysis

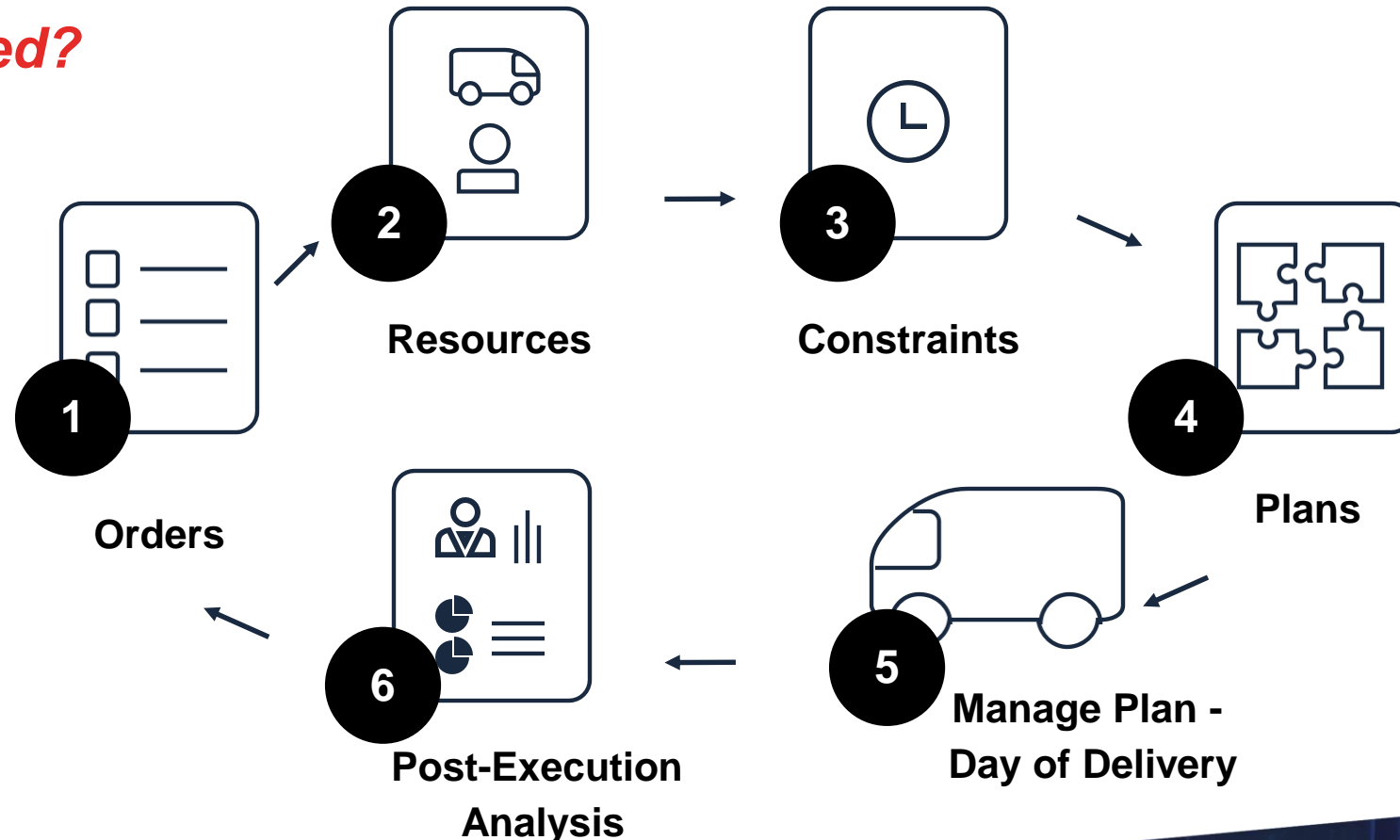
- Integrated with different steps in the

POWERED BY POSSIBILITIES.

Next-Gen Routing Software

The process

What's involved?



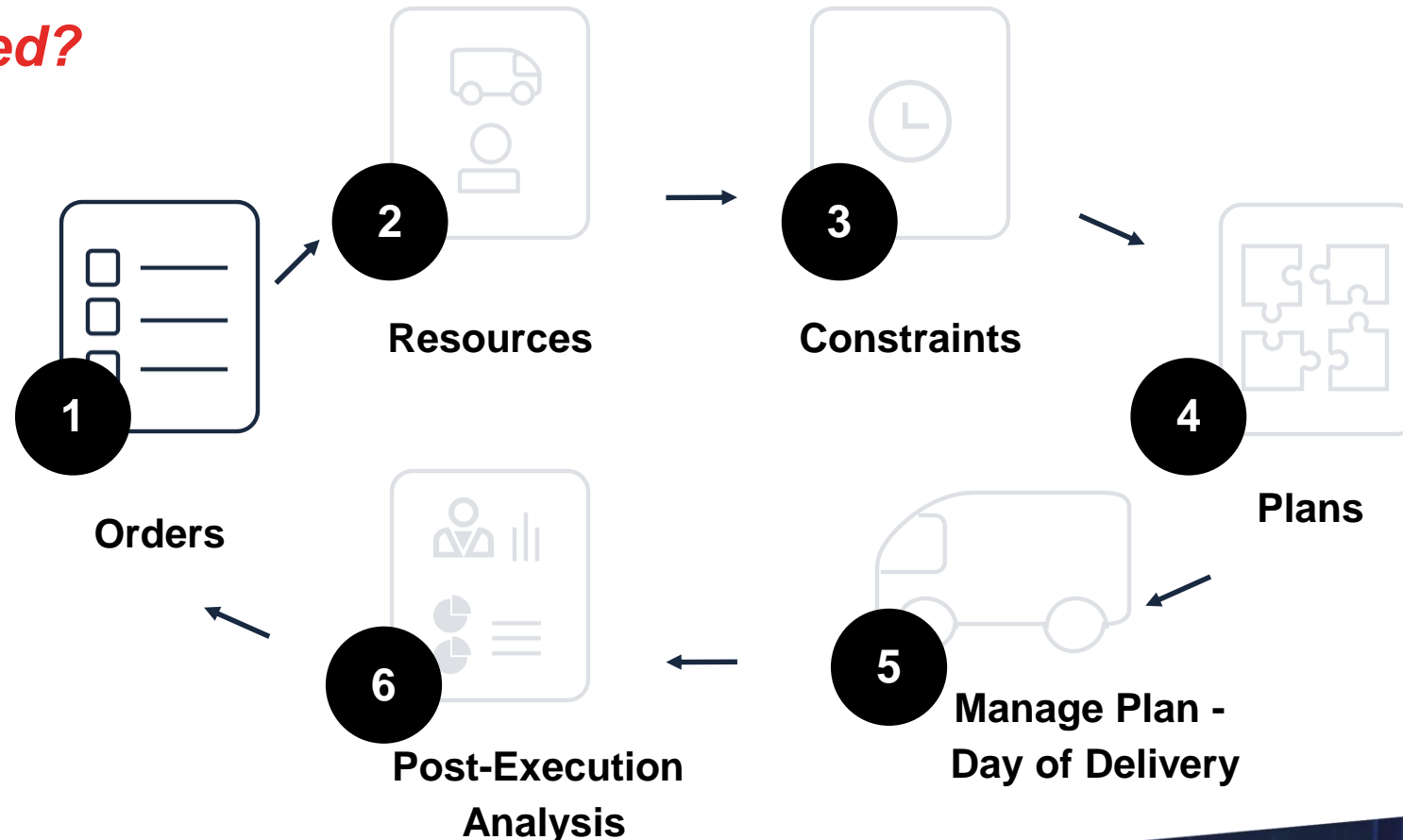
POWERED BY POSSIBILITIES.

Next-Gen Routing Software

The process

What's involved?

- Orders flow into system -- ideally via API integration
- System optimizes to match fleet priorities
- Real-time dynamic routing strategies supported

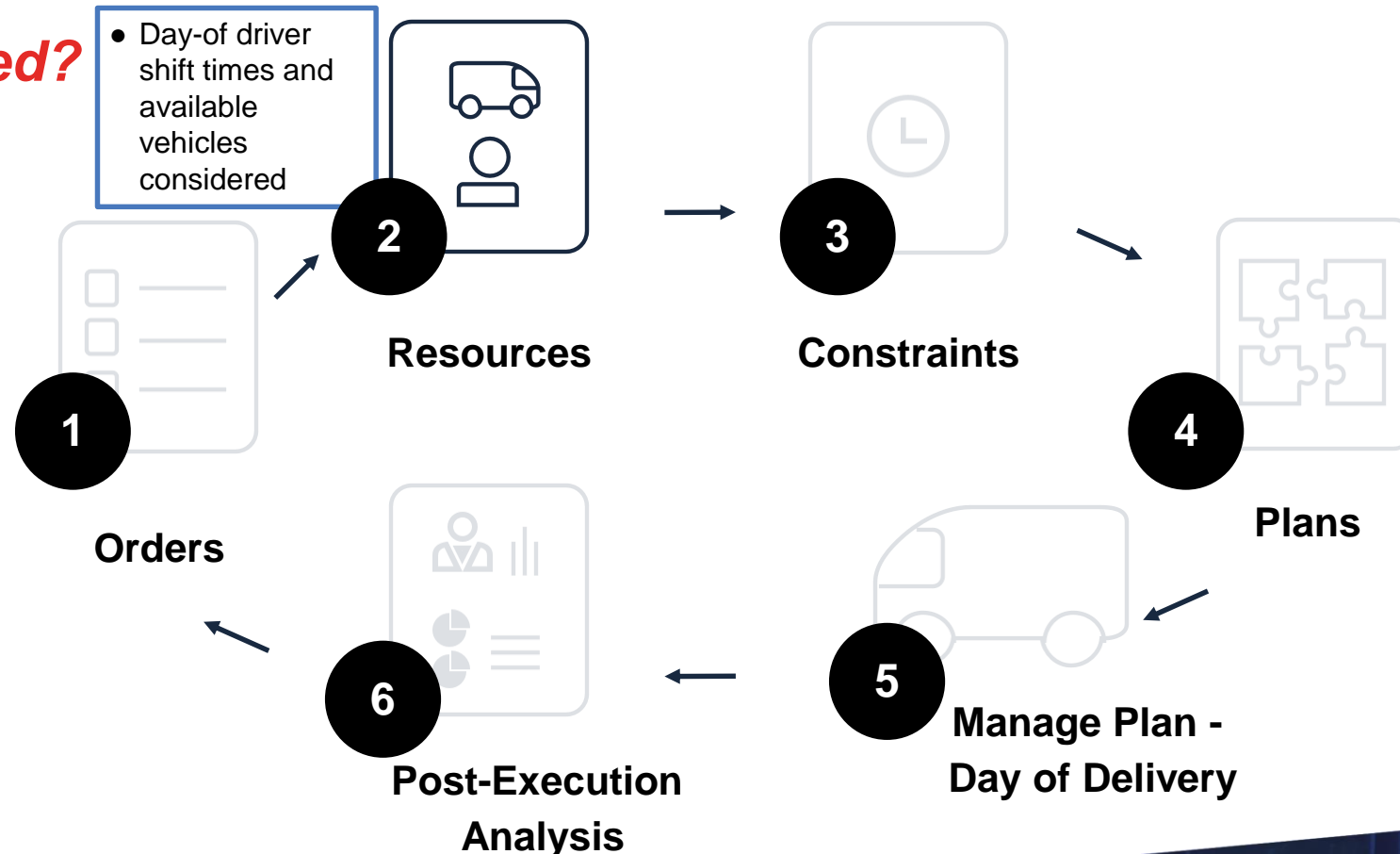


POWERED BY POSSIBILITIES.

Next-Gen Routing Software

The process

What's involved?

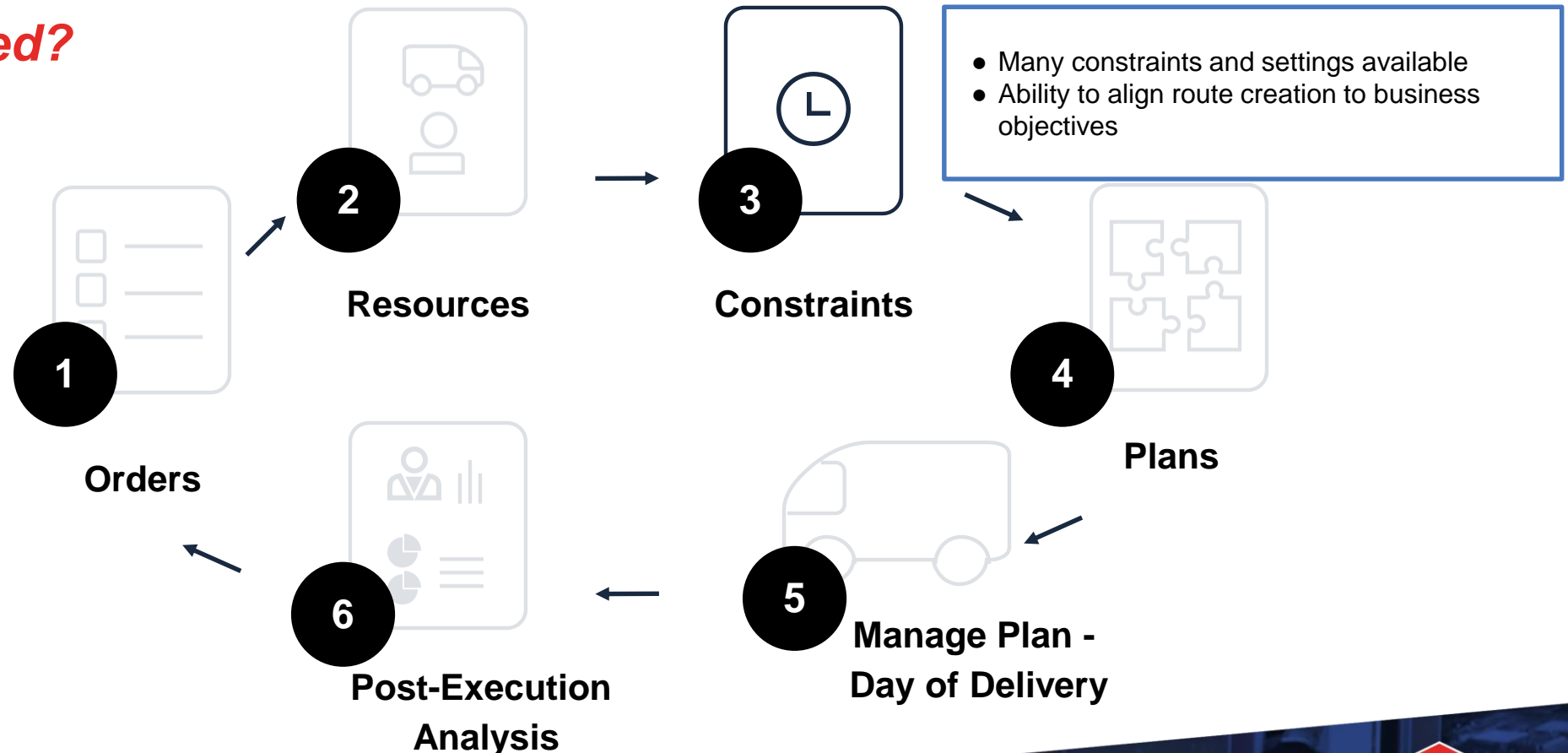


POWERED BY POSSIBILITIES.

Next-Gen Routing Software

The process

What's involved?

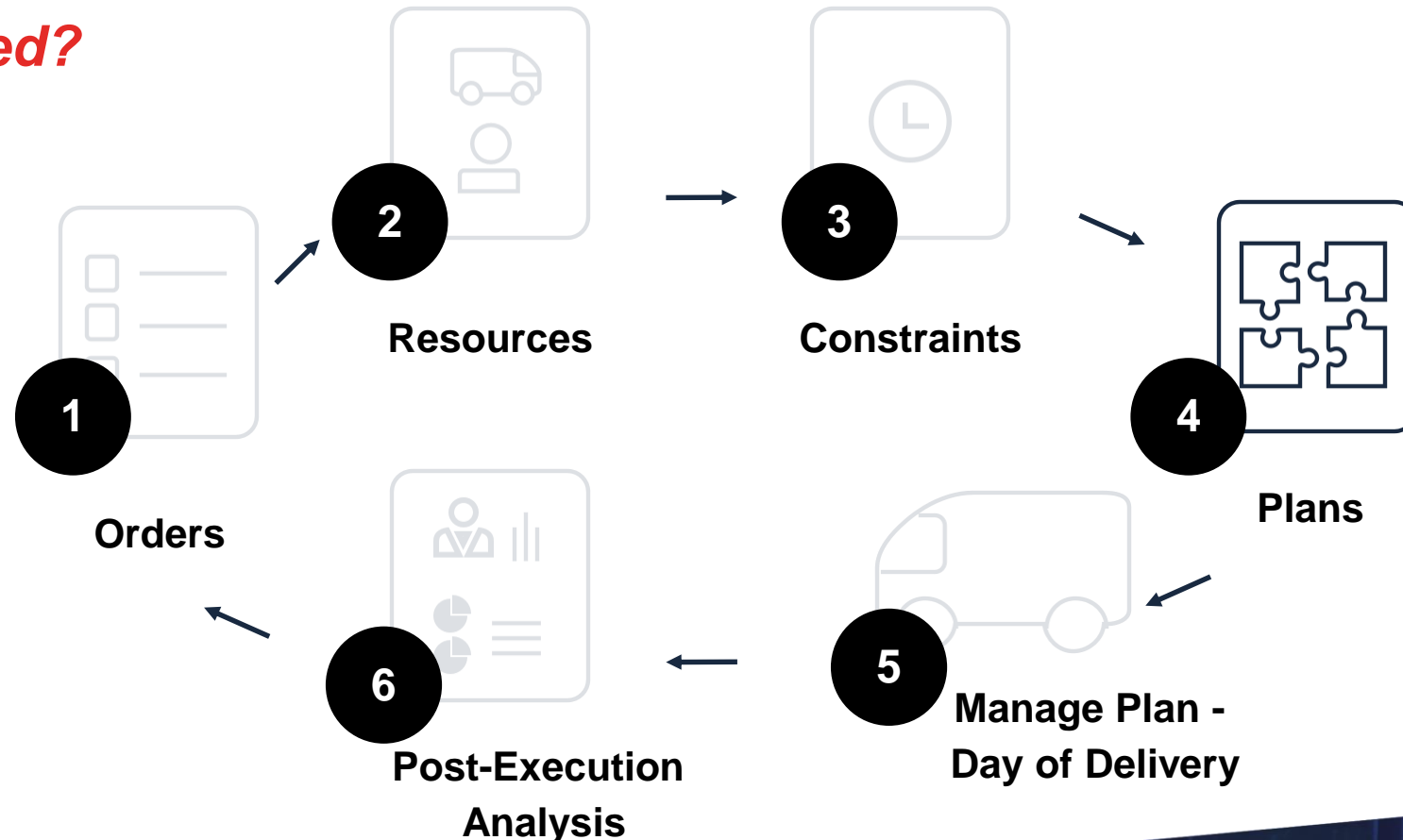


POWERED BY POSSIBILITIES.

Next-Gen Routing Software

The process

What's involved?



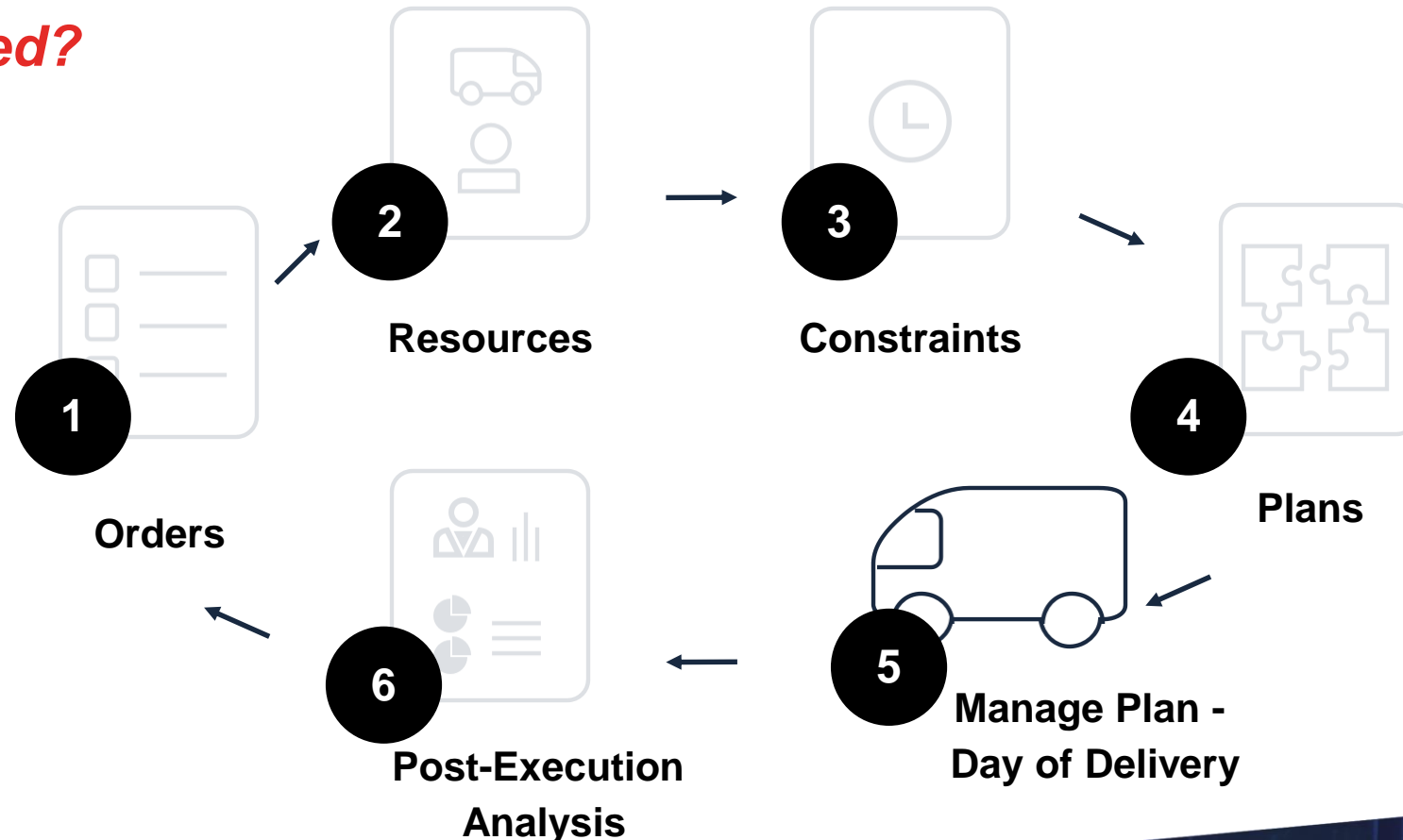
- Automatically creates optimized route plans
- Planners can easily adjust and analyze impact of route alternatives
- Machine learning analyzes historical data to inform the route building

POWERED BY POSSIBILITIES.

Next-Gen Routing Software

The process

What's involved?



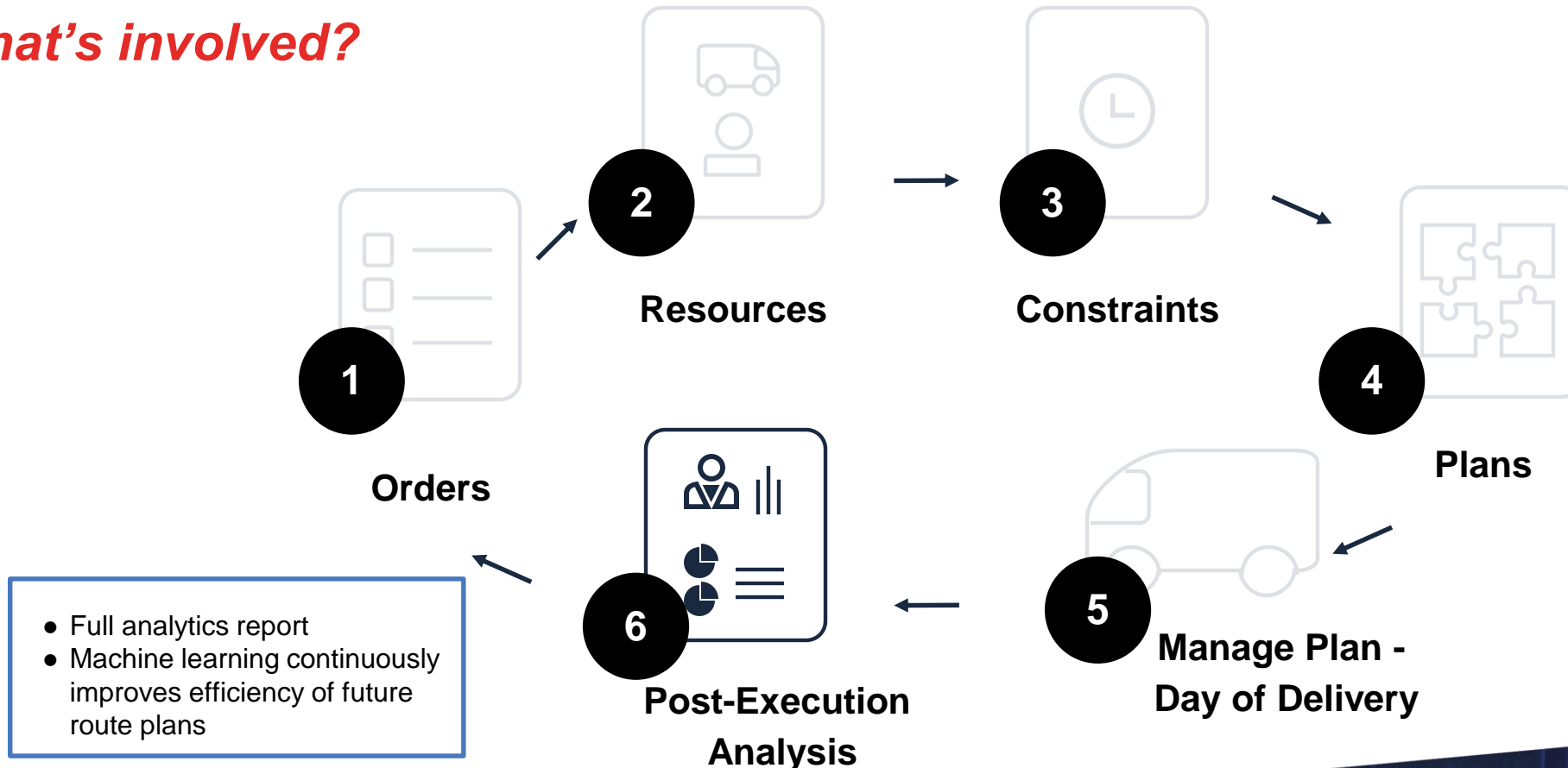
- Real-time fleet visibility
- In-route optimization;
- Drivers can make route adjustments on their own
- Driver-specific tools streamline drivers' tasks

POWERED BY POSSIBILITIES.

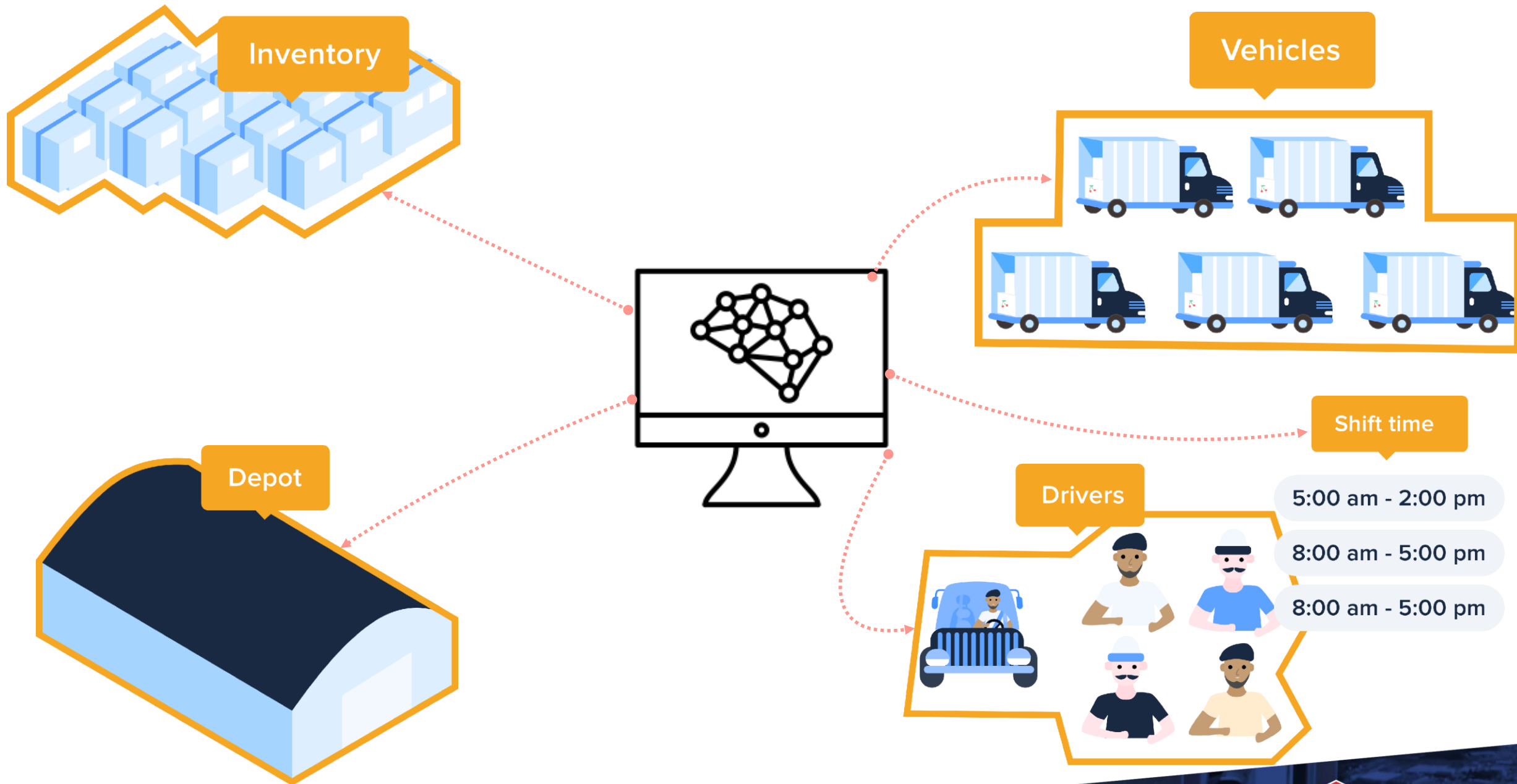
Next-Gen Routing Software

The process

What's involved?



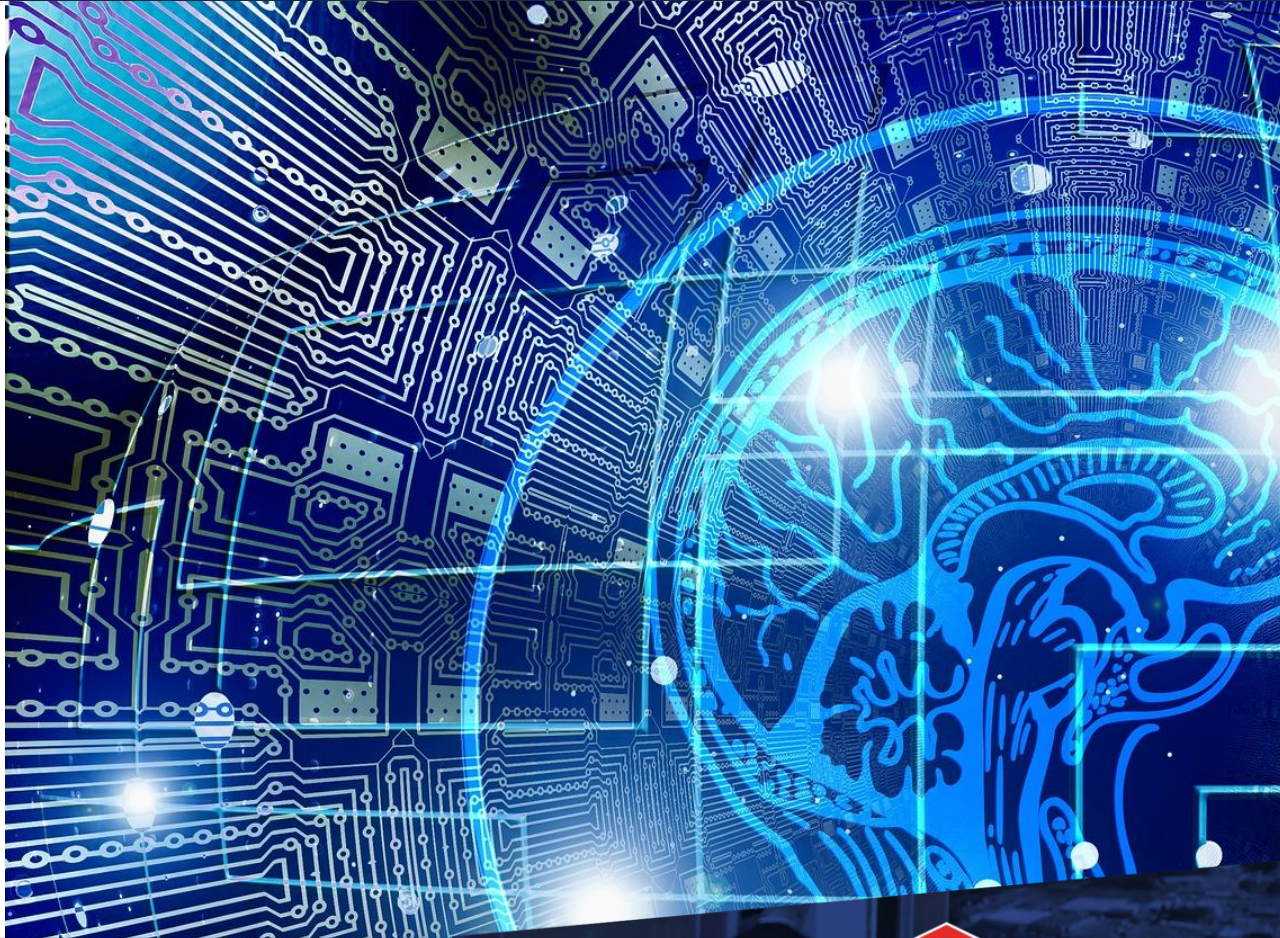
POWERED BY POSSIBILITIES.



POWERED BY POSSIBILITIES.

Next-Gen Routing | Limitations, Costs & Benefits

- ⦿ Fully automated all-in-one platform
- ⦿ Optimized, efficient routing
- ⦿ Real-time dynamic routing
- ⦿ Supports on-demand operations
- ⦿ Continuous improvement through machine learning



An In-Depth Look: Next-Gen Routing Software

Next-generation routing features are no longer 'nice to haves' -- they are essential:

Cloud-based architecture

Machine learning/AI

Advanced automation & Dynamic solutions

Real-time visibility

Friendly UX & streamlined mobile experience



POWERED BY POSSIBILITIES.

Cloud-Based Architecture

- Ensures continuous availability and automatic updates
- Supports dynamic fleet management and app-based driver tools
- Enables in-route optimization
- Offers real-time visibility



Machine Learning/AI

- Automate data collection
- Predict accurate service times
- Build routes that better match the day of delivery
- Understand drivers' preferred routes and sequences
- Create routes that are more efficient and better suited for drivers

```
": "2017-06-03T18:42:18.018", "deltaStartMillis": "508", "method": "handle", "rec\ncom.orgmanager.handlers.RequestHandler", "durationMillis": "10"} {"ti\n5022", "message": "Duration Log", "durationMillis": "10"} {"ti\npp/page/analyze", "webParams": "file=chartdata_new.json", "c\n8249868e-afd8-46ac-9745-839146a20f09", "class": "com.orgmanager.handlers.R\nlis": "36"} {"timestamp": "2017-06-03T18:43:33.030", "deltaStart\n\"file=chartdata_new.json\", \"sizeChars\": \"48455\", \"message\": \"\n\"144o2n620jm9trnd3s3n7wg0k\", \"level\": \"INFO\", \"webURL\": \"/app/page/report\", \"web\nillis\": \"0\", \"level\": \"INFO\", \"webURL\": \"/app/page/report\", \"web\n789d89cb-bfa8-4e7d-8047-498454af885d\", \"sessionID\": \"144o2n62\nlis\": \"7\"} {"timestamp": "2017-06-03T18:46:921.000", "deltaStart\ncom.orgmanager.handlers.RequestHandler", "method": "handle", "rec\n10190", "message": "Duration Log", "durationMillis": "10"} {"ti\np/rest/json/file", "webParams": "file=chartdata_new.json", "c\n7ac6ce95-19e2-4a60-88d7-6ead86e273d1", "sessionID": "144o2n62\nis": "23"} {"timestamp": "2017-06-03T18:42:18.018", "deltaStart\ncom.orgmanager.handlers.RequestHandler", "method": "handle", "rec\n5022", "message": "Duration Log", "durationMillis": "508"} {"ti\npp/page/analyze", "webParams": "file=chartdata_new.json", "c\n8249868e-afd8-46ac-9745-839146a20f09", "class": "com.orgmanager.handlers.R\nis": "36"} {"timestamp": "2017-06-03T18:43:33.030", "deltaStart\n\"file=chartdata_new.json\", \"sizeChars\": \"48455\", \"message\": \"\n\"144o2n620jm9trnd3s3n7wg0k\", \"level\": \"INFO\", \"webURL\": \"/app/page/report\", \"web\nillis\": \"0\", \"level\": \"INFO\", \"webURL\": \"/app/page/report\", \"web\n789d89cb-bfa8-4e7d-8047-498454af885d\", \"sessionID\": \"144o2n62\nis\": \"7\"} {"timestamp": "2017-06-03T18:46:921.000", "deltaStart\ncom.orgmanager.handlers.RequestHandler", "method": "handle", "rec
```

Advanced Automation & Dynamic Solutions

Autonomous Dispatch & On-Demand

- Automatically dispatch to the optimal drivers in the most efficient slots in their route sequences
- Eliminate manual route edits for dispatchers and drivers
- Dramatically reduce the time from order to delivery



Advanced Automation & Dynamic Solutions

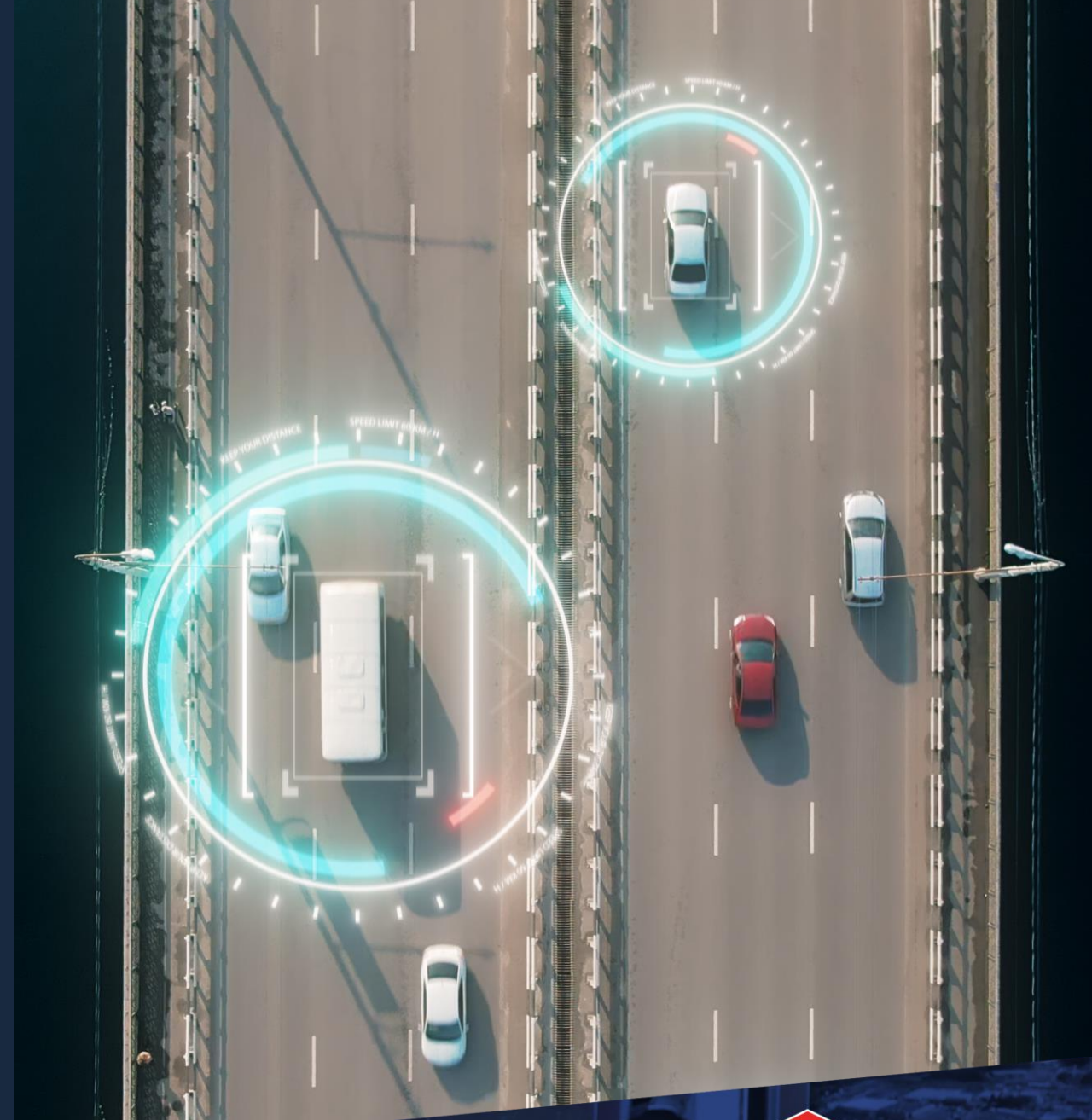
Real-time Dynamic Optimization

- Automatically update a driver's sequence if the algorithms identify potential route issues
- Prevent late deliveries via automatic re-routing
- Manage on-demand orders
- Avoid day-of delivery route problems



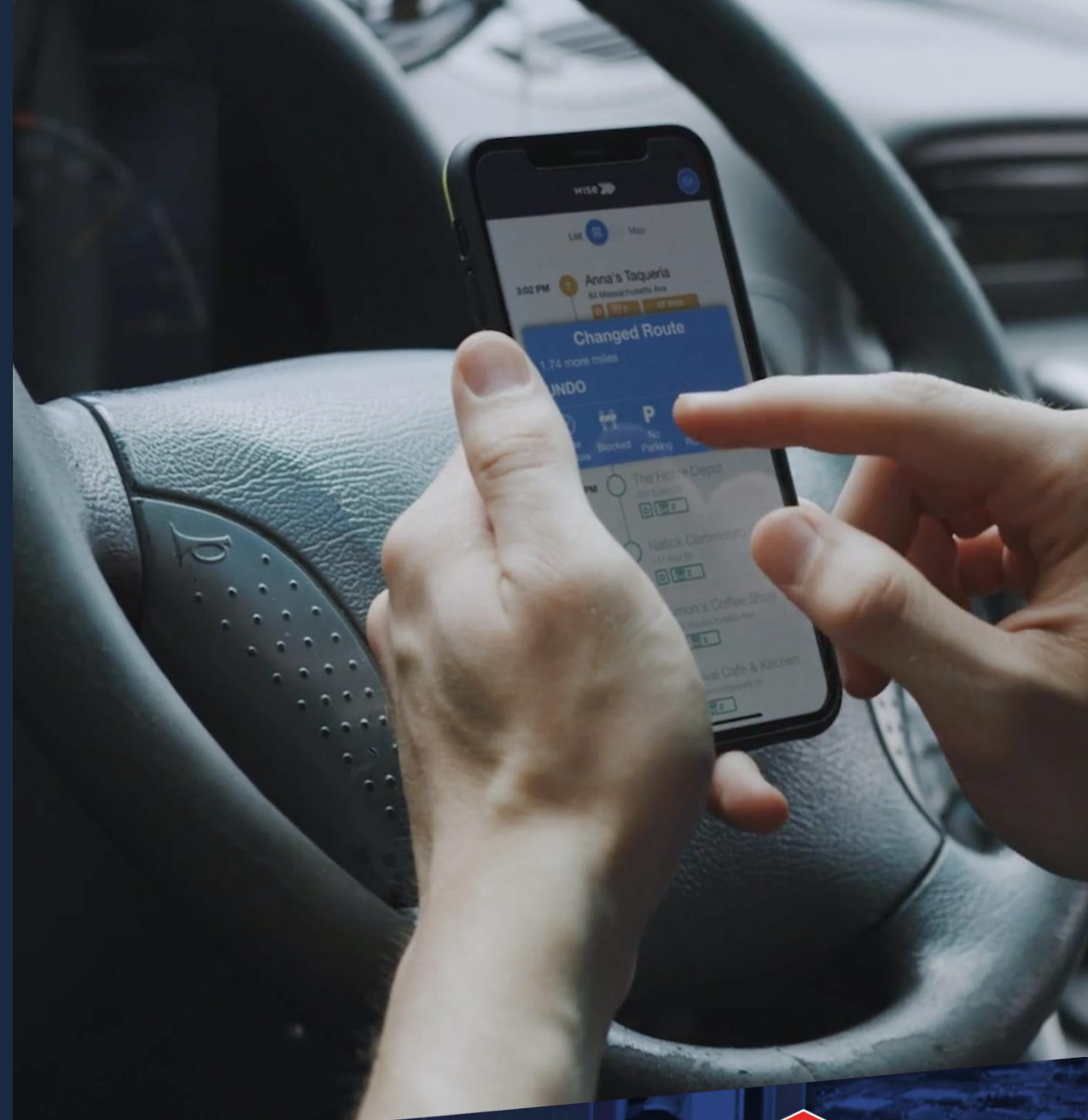
Real-time Visibility

- Full visibility for ultimate efficiency
- All details of drivers' progress including any schedule changes, without wasting time calling or waiting for them to arrive



Friendly User Experience & Streamlined Mobile Experience

- Easy-to-use, modern experience
- Driver training
- Driver retention
- Streamlines dispatchers' and drivers' interactions with the software.
- Gives delivery recipients simple, clear delivery notifications, telling them when their driver will arrive and other key details of their order.
- Reduces the risk that a company's distribution operation is only controlled by one or two expert dispatchers.





Let's recap

POWERED BY POSSIBILITIES.

Manual/Legacy Routing

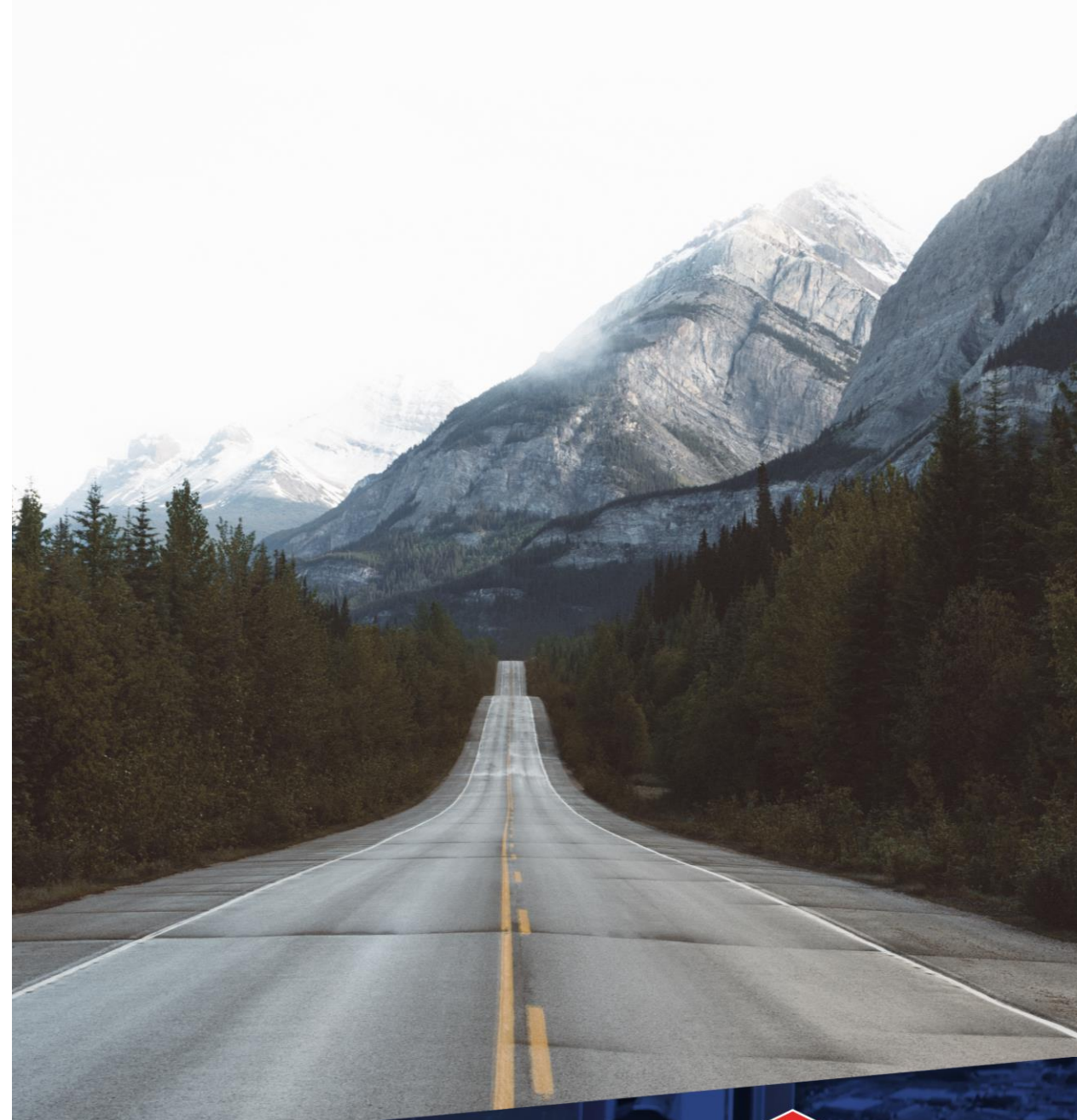
- Manual, lots of guesswork
- Call drivers with changes
- No idea how your team is performing during the day
- Looking for ways to increase inefficiency

Next-Gen Routing

- Automated
- Faster route planning
- Dispatch in real-time
- Stay connected via GPS tracking & collect proof of delivery to stay up-to-date
- Conserve fuel, reduce mileage on vehicles

Routing Success

- High-quality customer service
- Business growth & flexibility
- Maximum efficiency
- Fleet utilization - more orders, same resources, less vehicles
- On-time customer arrivals
- Visibility -- knowing where drivers are & order status



Q&A

POWERED BY POSSIBILITIES.



THANK YOU

For more information:

Speaker name: Erich Wolters | VP, Wise Systems

Speaker email: ewolters@wisesystems.com

Website: www.wisesystems.com

Or visit MODEX Booth #6378