



# NODES & LINKS

Next Generation PMOs  
Combining People and Machines

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## Our Partners



## Our Accolades



**Nodes & Links** uses cloud-tech and AI to enable engineering projects to be delivered on time, on budget and at less cost.

**Nodes & Links** is an environment that allows every member of your team to track, analyse and prioritise work to make great decisions.



**BAE SYSTEMS**



- Served: **300 projects**
- Across: **30 enterprise customers**
- Across **3 continents**
- Hitting **automation levels of 96%**, saving one customer £63M per year
- Hitting **acceleration savings** of 1.5% of project budgets, saving one customer £60M on a single project
- **Doubling company size** every 4 months

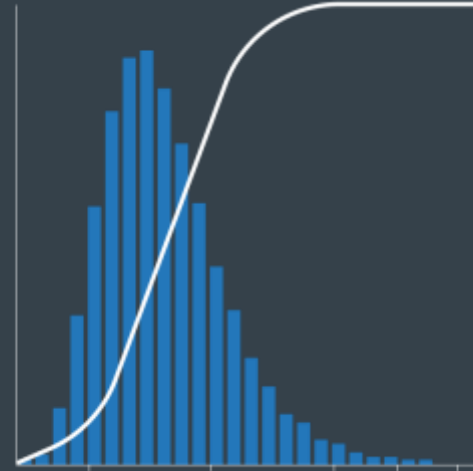
What we knew that  
**enabled us** to do this

# *Fact #1*

Projects earn revenue  
from **delivery**



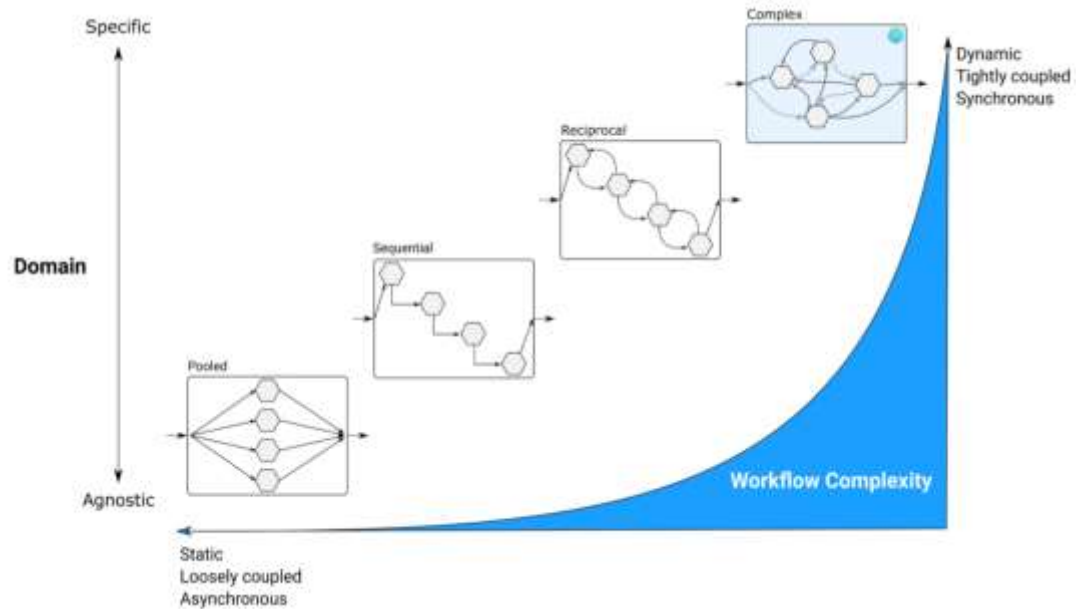
Projects earn profit from  
**Project Management**





# *Fact #2*

# Project Management is about **managing complexity**



Delivering successful projects is as **hard** as today...



## Project Performance Map

	Mean cost overrun	Frequency of cost overrun	Mean schedule overrun	Frequency of schedule overrun	Mean benefit overrun	Frequency of benefit shortfall
Solar power	1%	4 out of 10	0%	2 out of 10		
Energy transmission	8%	4 out of 10	7%	1 out of 10		
Wind power	13%	6 out of 10	22%	6 out of 10		
Pipeline	14%	6 out of 10				
Water	21%	7 out of 10	33%	8 out of 10		
Road	24%	7 out of 10	38%	8 out of 10	-3%	6 out of 10
Bridge	27%	6 out of 10	19%	7 out of 10	2%	7 out of 10
Mining	27%	5 out of 10	45%	6 out of 10		
Oil+Gas	31%	8 out of 10				
Thermal	33%	6 out of 10	37%	8 out of 10	-6%	7 out of 10
Tunnel	37%	8 out of 10	21%	6 out of 10	-21%	8 out of 10
Rail	38%	7 out of 10	39%	6 out of 10	-26%	7 out of 10
Airport	46%	6 out of 10			-15%	5 out of 10
Defense	52%	5 out of 10	41%	8 out of 10	0%	3 out of 10
Aerospace	61%	9 out of 10	27%	9 out of 10		
Buildings	63%	7 out of 10	38%	6 out of 10	-5%	6 out of 10
IT	74%	4 out of 10	47%	5 out of 10	17%	5 out of 10
Dams	85%	7 out of 10	42%	8 out of 10	-11%	6 out of 10
Nuclear power	122%	10 out of 10	65%	9 out of 10		
Olympics	172%	10 out of 10	0%	0 out of 10		

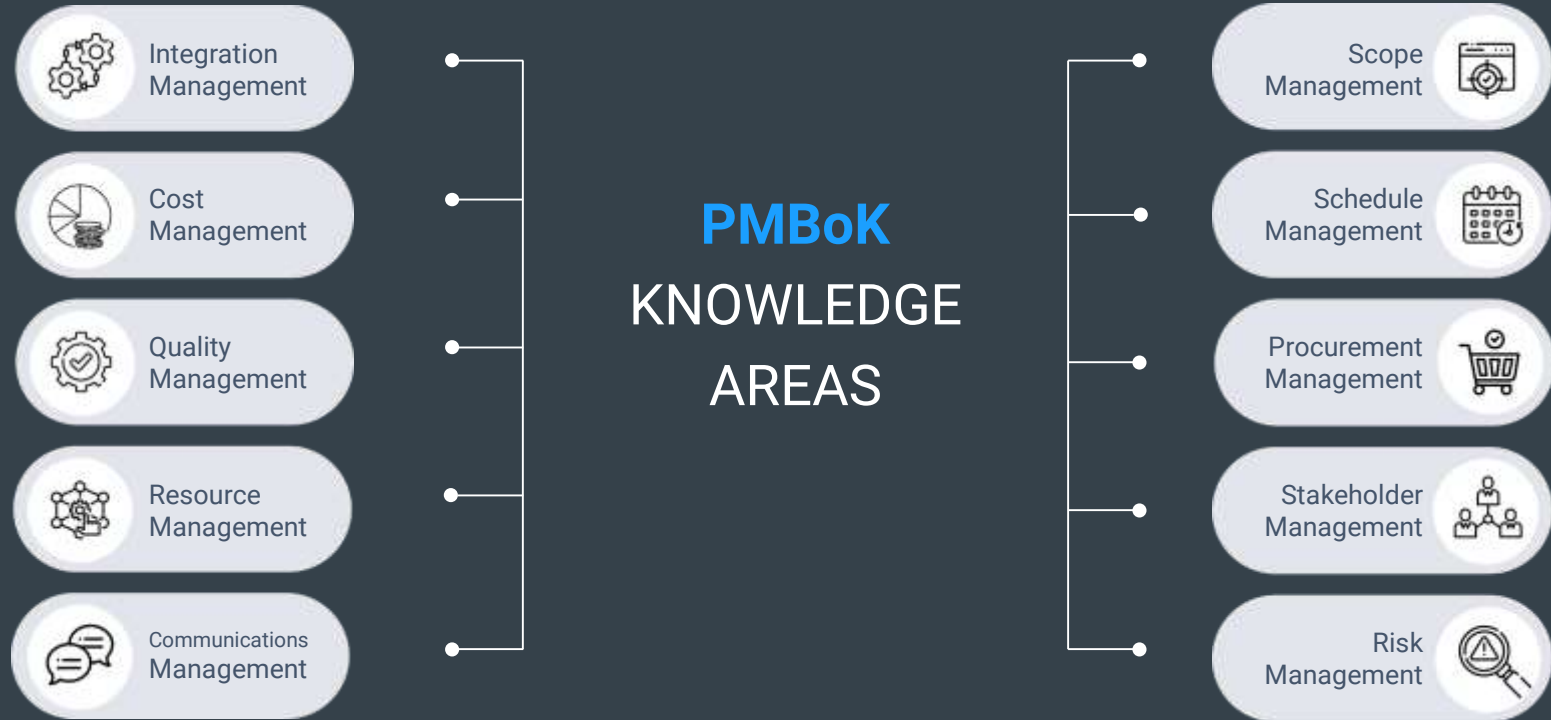
...as it was in

# Ancient Greece




# *Fact #3*







**Complexity implies ambiguity, which requires people in roles**





The next leap forward in **Project Management** will happen when we are able to reimagine the division of labour within roles

We ask our project teams to do **the impossible**



	Today	Tomorrow
Repetitive		
Complex		
Ambiguous		

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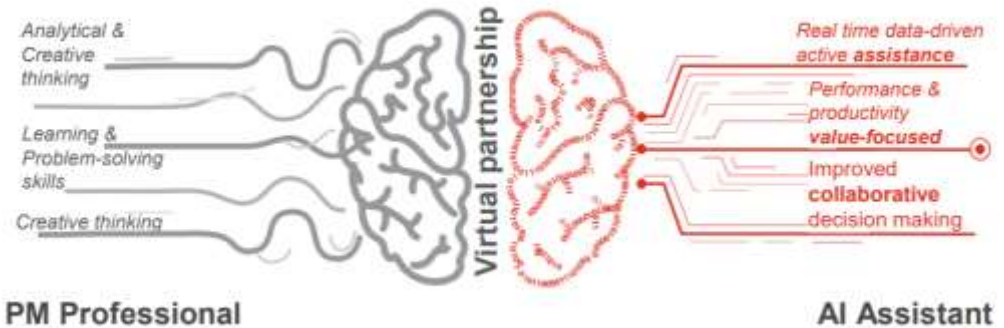
=	Little time Poor performance		More time Better performance	
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# Virtual partnership Man and the machine

Project management has evolved over time, by adding value to organizations. **Man and the machine**, together facing the large-scale challenges named 'technological breakthroughs' – are raising both profound opportunities for business and people. In particular, Artificial Intelligence (AI), will have a huge impact on the role of the project manager also.



# Project Scheduler



# Project Scheduler



# Project Scheduler



## Comparing Schedules

Identify Differences

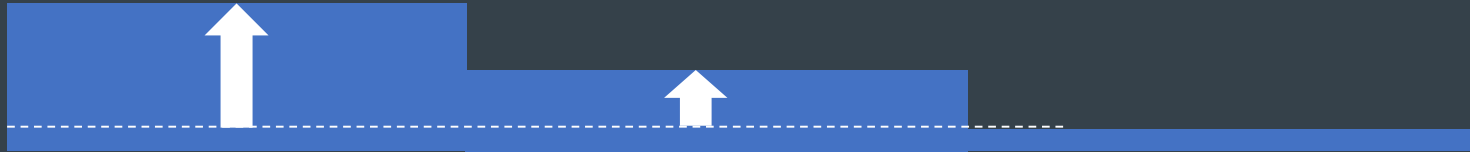


Evaluate Impact



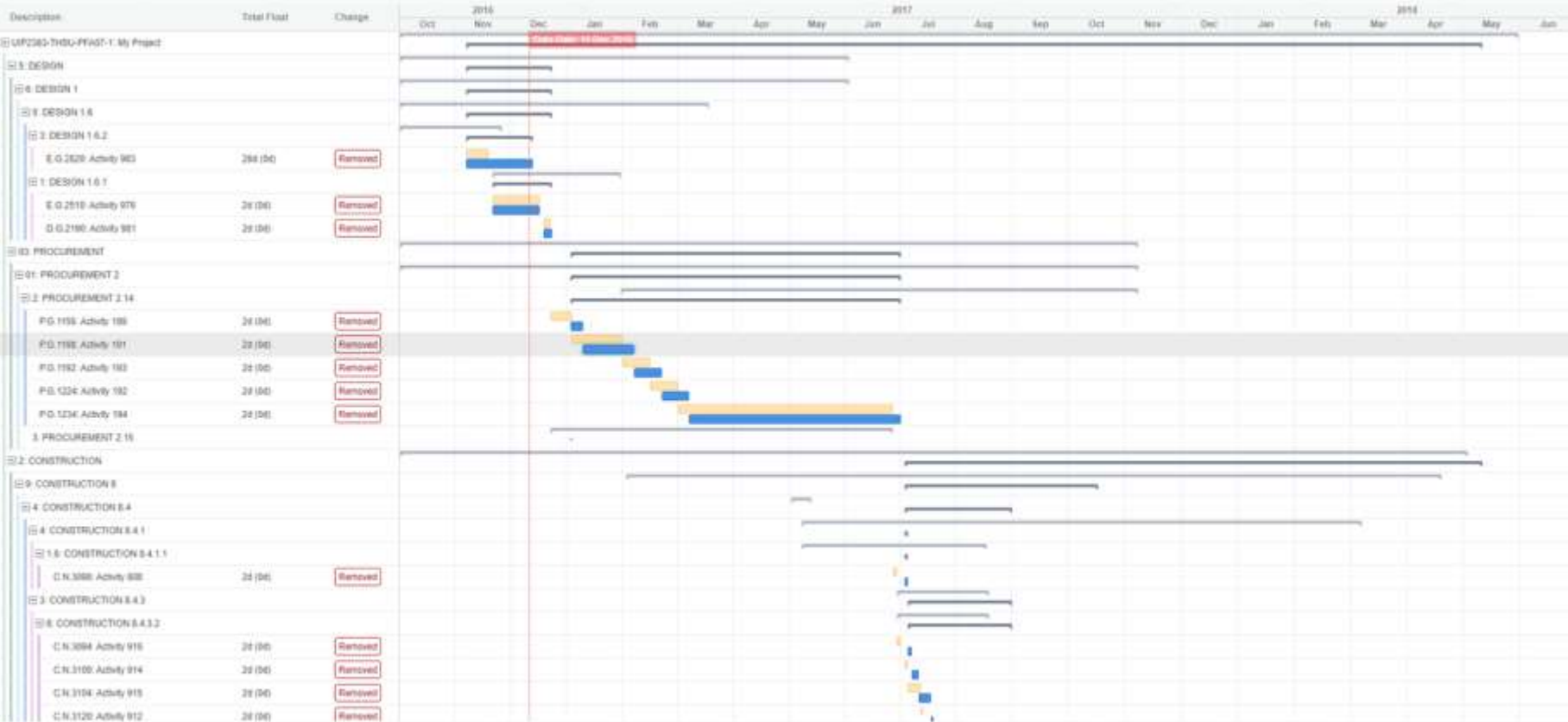
Take Action

Machine  
Advantage



Human  
Advantage



Completion Date  
May 10, 2018Critical Path  
changedDuration changes ...  
16dDelayed activities  
13 +2Delayed milestones  
1Duration  
by 11w 24d -20dProgress  
19% -4%Performance Index  
8.52 -0.07Weeks Behind  
12.6 +1.7Compression  
100% +7%P80  
13 -5

Code

Activity Name

Start Date

End Date

Duration

Type

Total Float

Score

WBS Parent

WBS Level

WBS Path

PG.1168

Activity 191

Jan 10, 2017

Feb 7, 2017

28d

task

2

97.56%

PROCUREMENT ...

4

My Project/PRO...

changed

+6d

+6d

+2

-0.04%

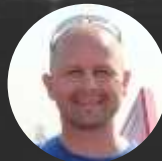
changed



“

“Like for like, 2 hours of work becomes 2 minutes.  
As a by-product we are able to produce insights we  
never would have been able to.”

”



Senior Planning Engineer  
EDF Energy

# Project Scheduler



# Project Scheduler



## Identifying Opportunities for Acceleration

Evaluate the status-quo → Create and evaluate scenarios → Select and action insights

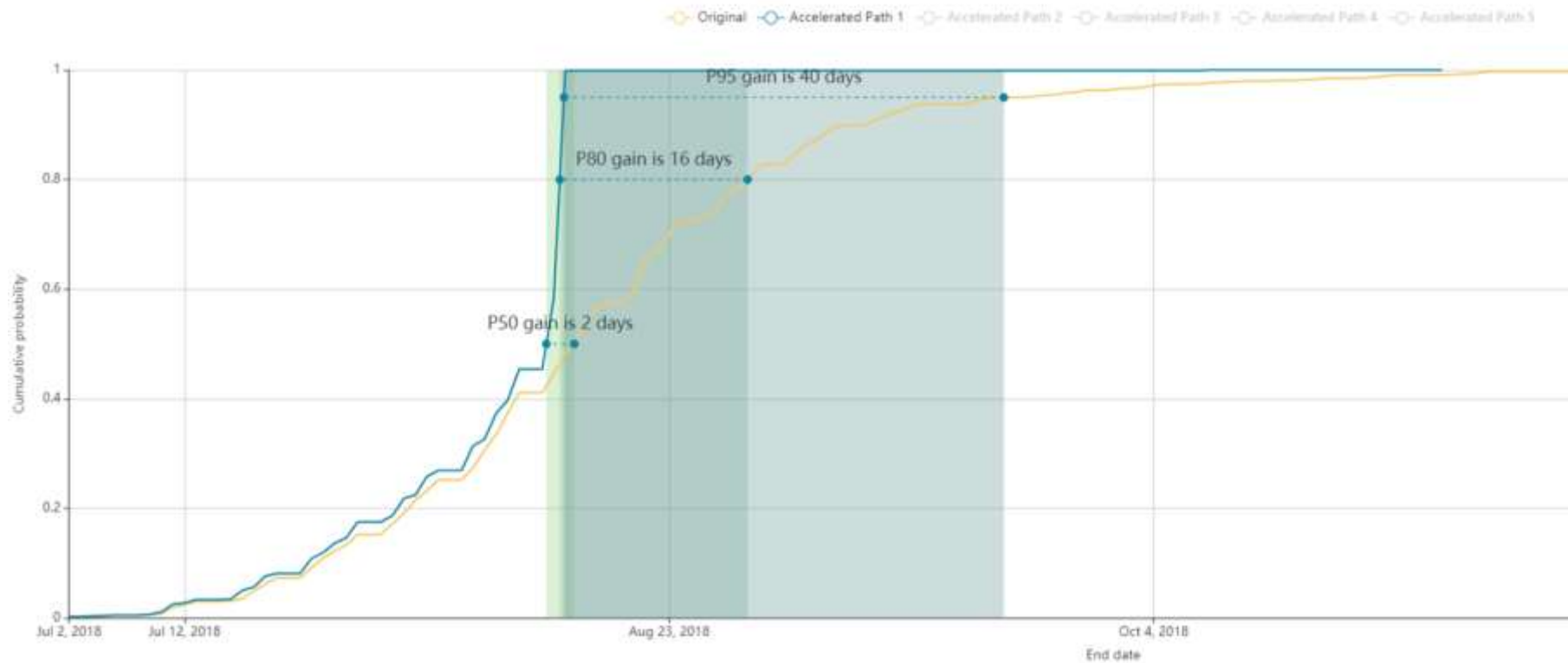
Machine  
Advantage



Human  
Advantage







“

I went from looking at critical paths on a manual basis to full automation. Nodes & Links instantly gives me the **top 5 paths**, enabling far more intelligent what ifs.

”



**Bob Hide**  
Planning Director  
BBV

# Project Scheduler



# Project Scheduler



## Explaining build strategy to the wider team

Create summary visuals  
of master plan



Present and  
narrate to the wider  
team



Empower the wider  
team to create for  
themselves

Machine  
Advantage



Human  
Advantage

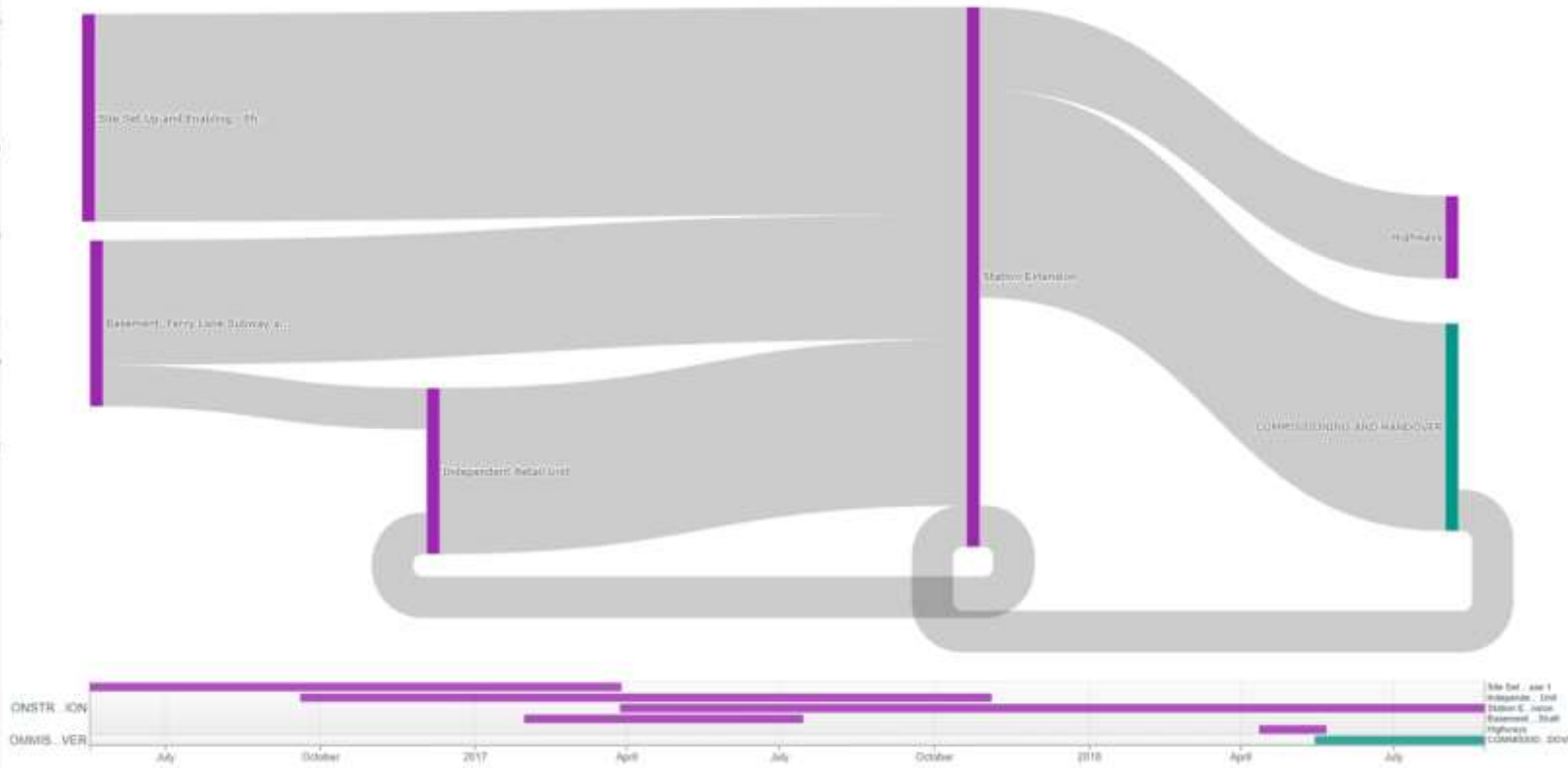


- > PROJECT-DATES
- CONSTRUCTION
  - Highways
- > Site Set Up and Enabling - Prep
- Development and Making Good
- > Independent Retail Unit
- > Hale Village Bridge (Subject to)
- > Existing Station Refurbishment
- > Basement Ferry Lane Subway
- > Station Extension
- > Existing Station Refurbishment
- PROCUREMENT AND FABRICATION
- PRELIMINARIES
- COMMISSIONING AND HANDOVER
- DESIGN
- COMPENSATION COSTS

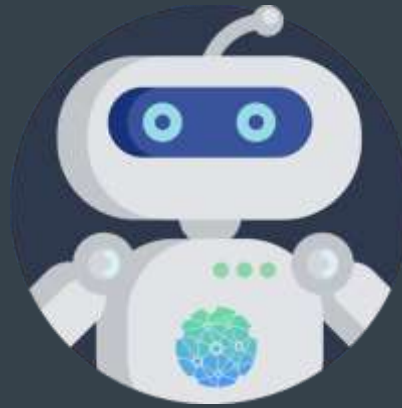
THU PRATY - Permit Ending 2... PROJECT DATES

Select a WBS from the chart to move

PROJEC... CONSTRUC... PROCUREMENT AND FAB... PRELIMIN... COMMISSIONING AND HA... DES... COMPENSATION...



# The future of **Project Management** has machines working for people



*your Project Copilot*

## Our Partners



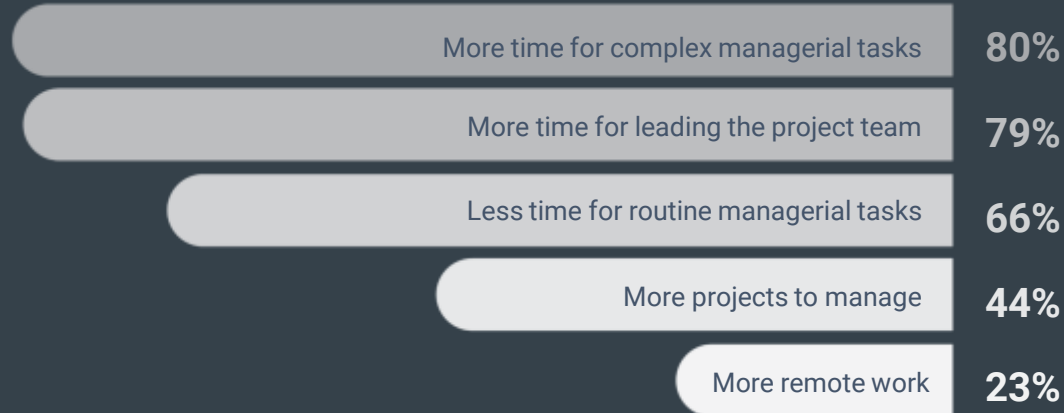
## Our Accolades



# People will become **more valuable**



Top **three changes** made by AI in the way project managers spend their time



**Buck the trend**





**We all will** use cloud-tech and AI to deliver engineering projects on time, on budget and at less cost.



*The time is now*

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*your Project Copilot*

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