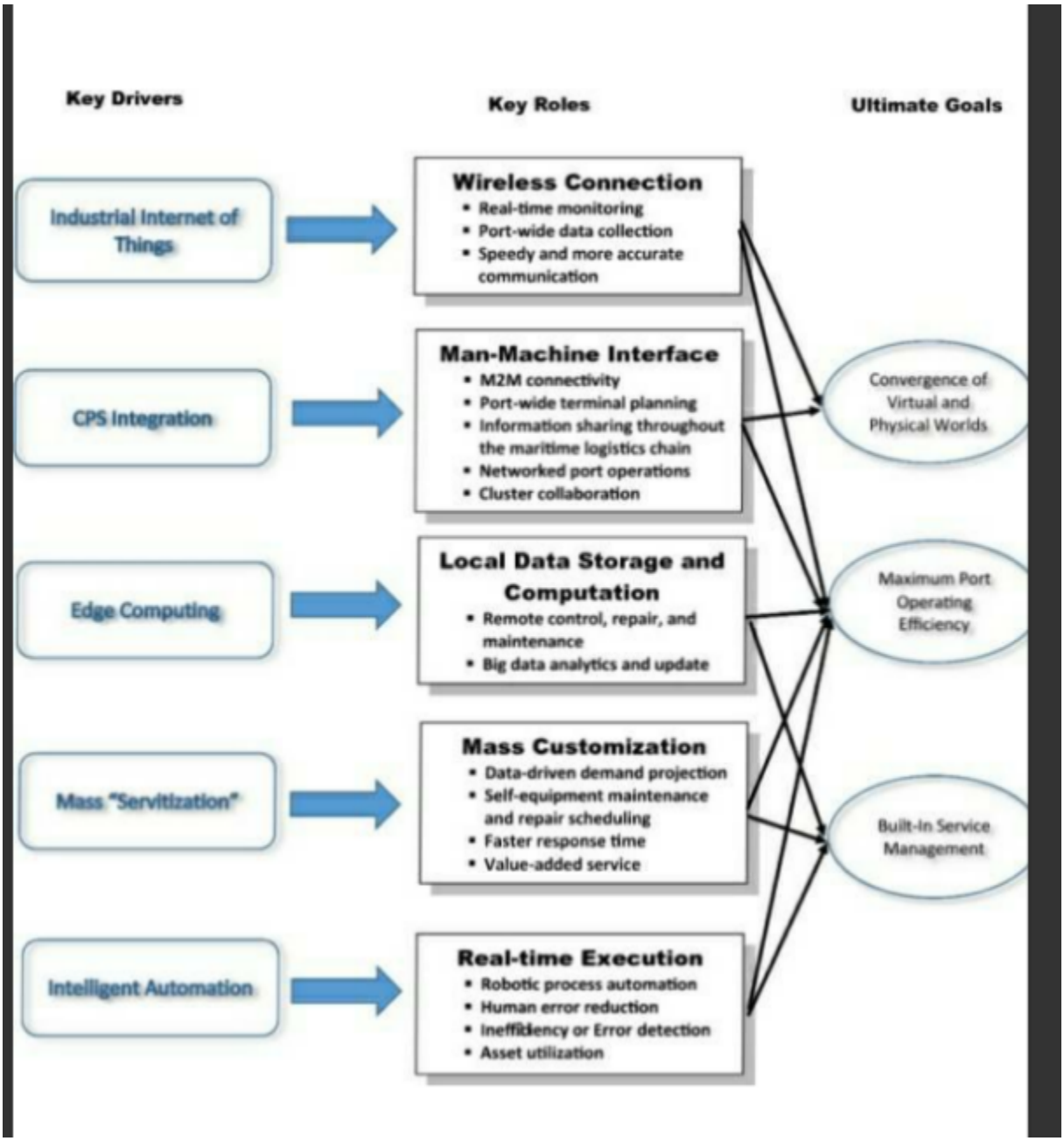
Project Design Phase-II
Technology Stack (Architecture & Stack)

Date	17.10.2022
Team ID	PNT2022TMID17447
Project Name	Project - Traffic and Capacity analytics for major ports
Maximum Marks	4 Marks

Technical Architecture:



Port infrastructures and stake holders	Enabling Technologies	Smart port services	Sma
• Road • Rail • Bridge • Terminal • Parking • Container • Warehouse • Port Authorities • Shipping Companies	• Sensors • RFID • IoT • Fog Computing • Cloud computing • Big Data Technologies	• Port Monitoring • Infrastructure Management • Real-Time Navigation • Energy Management • Data analysis and prediction • Emergency, Rescue & Security operations.	•

Table-1 : Components & Technologies:

S.No	Component	Description	Technolo
1.	User Interface	How user interacts with application e.g. Web UI, Mobile App, Chatbot etc.	HTML, CS

2.	Application Logic-1	Logic for a process in the application	Python
3.	Application Logic-2	Logic for a process in the application	IBM Wats
4.	Application Logic-3	Logic for a process in the application	IBM Wats
5.	Database	Data Type, Configurations etc.	MySQL
6.	Cloud Database	Database Service on Cloud	IBM DB2,
7.	File Storage	File storage requirements	IBM Block Storage S Filesysten
8.	External API-1	Purpose of External API used in the application	IBM Weat
9.	External API-2	Purpose of External API used in the application	Aadhar AI
10.	Machine Learning Model	Purpose of Machine Learning Model	Object Re
11.	Infrastructure (Server / Cloud)	Application Deployment on Local System / Cloud Local Server Configuration: Cloud Server Configuration :	Local, Clo

Table-2: Application Characteristics:

S.No	Characteristics	Description	
1.	Open-Source Frameworks	List the open-source frameworks used	
2.	Security Implementations	List all the security / access controls implemented, use of firewalls etc.	
3.	Scalable Architecture	Justify the scalability of architecture (3 – tier, Micro-services)	
4.	Availability	Justify the availability of application (e.g. use of load balancers, distributed servers etc.)	
5.	Performance	Design consideration for the performance of the application (number of requests per sec, use of Cache, use of CDN's) etc.	