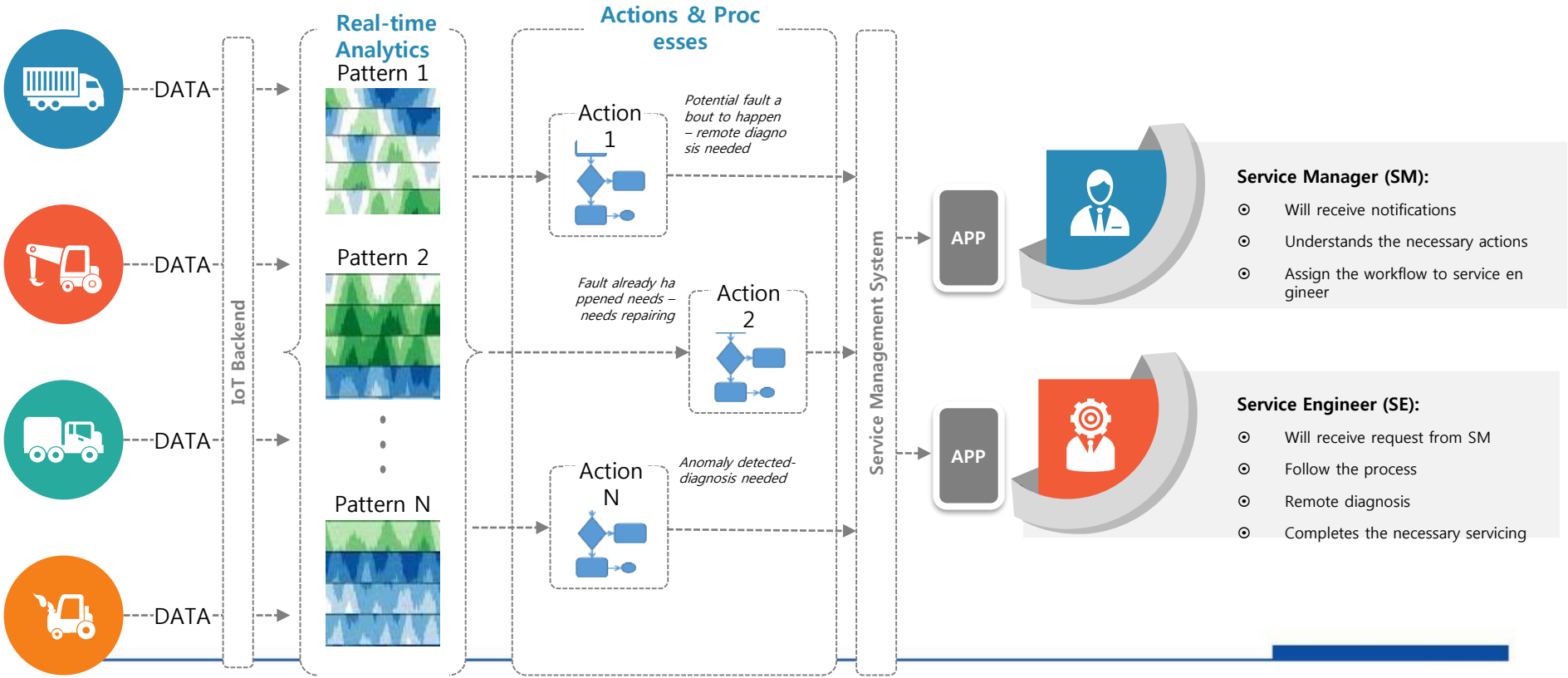
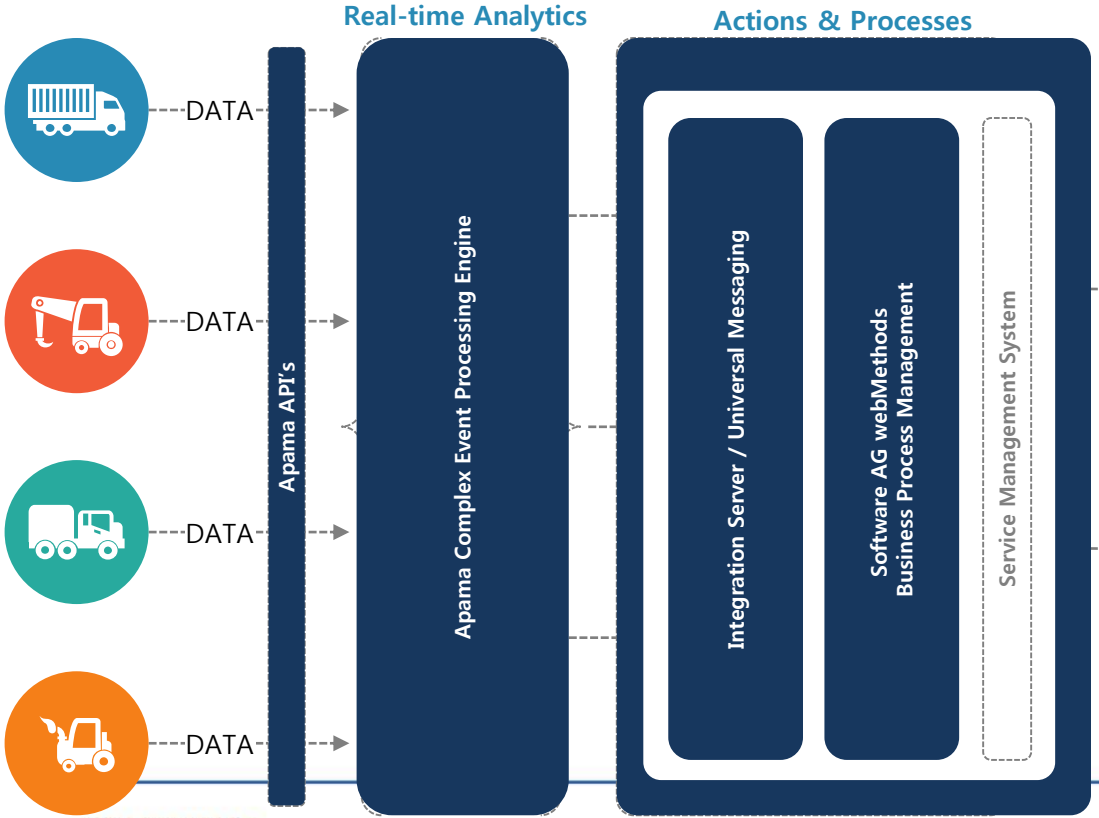
Predictive Maintenance – Solution



SAMSUNG HCL software AG

Predictive Maintenance – Solution (cont)



Service Manager (SM):

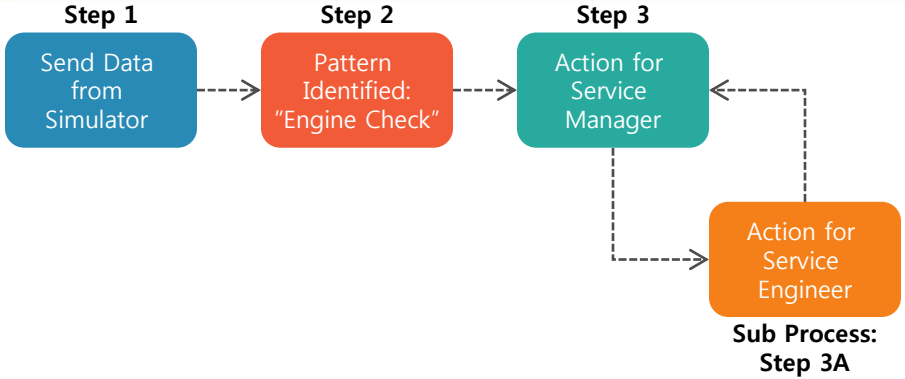
- Will receive notifications
- Understands the necessary actions
- Assign the workflow to service en gineer

Service Engineer (SE):

- Will receive request from SM
- Follow the process
- Completes the necessary servicing

SAMSUNG HCL software AG

Illustration One – Performance of Engine



Sample Pattern

Month	M1	M2	M3	M4
Engine RPM	1600	1400	1300	1000
Location	Hanover	Hanover	Hanover	Hanover
Speed	70	70	70	70
Oil Viscosity	20	20	20	20

Steps	Activity
Step 1	Simulator will send the data for Location, Engine RPM, Oil Viscosity & Speed
Step 2	Pattern Matched: Engine RPM goes down even thoug h the other parameters are same. For different locatio n, this condition could be varying. Duration of Check: Monthly
Step 3	Service Manager Activities
Step 3A	Sub Process: Service Engineer Activities

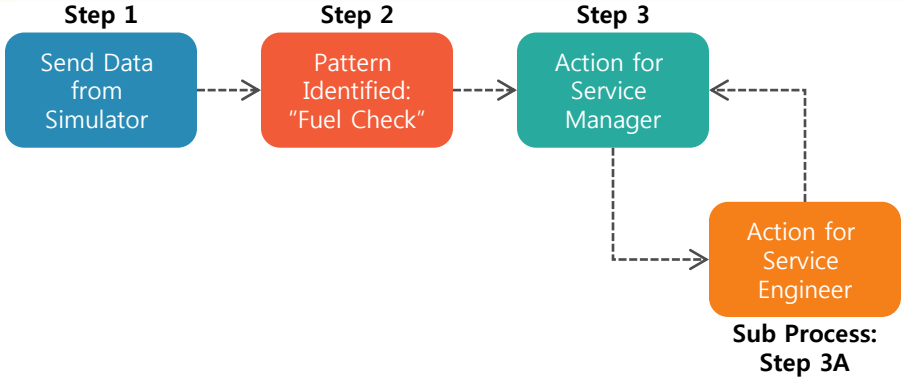
Action for Service Manager (SM):

1. SM will get a notification
2. SM has to trigger the following workflow:
   1. Inform the Owner
   2. On confirmation, Assign Service Engineer (SE) (Step 3A)
   3. Verify & Close the Process

1. Receives the request for work
2. Follow the guide lines
3. If spare parts needed order for that

SAMSUNG HCL software AG

Illustration Two – Fuel Efficiency



Steps	Activity
Step 1	Simulator will send the data for Fuel Level & Speed, Mileage
Step 2	Pattern Matched: Every week, Fuel Consumed / Distance Travelled. For different location, this condition could be varying Duration of Check: Weekly
Step 3	Service Manager Activities
Step 3A	Sub Process: Service Engineer Activities

Sample Pattern

Week	W1	W2	W3	W4
Fuel Consumed (litres)	20	25	10	20
Distance Travelled	200	250	100	200

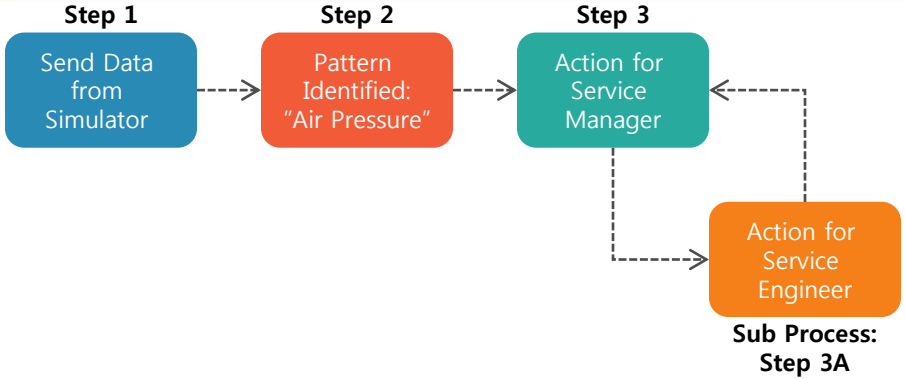
Action for Service Manager (SM):
SM will get a notification, if the Fuel Efficiency goes below 7
SM has to trigger the following workflow:

1. Inform the Owner
2. On confirmation of servicing, Assign Service Engineer (SE)
3. Verify & Close the Process

Sub Process for SE:

1. Receives the request for work
2. Service the Vehicle
    1. Follow the Guide
    2. Order the parts

Illustration Three – Air Pressure



Steps	Activity
Step 1	Simulator will send the data for Tire Pressure, Location
Step 2	Pattern Matched: Every 5 mins, the Tire pressure is go ing down for the same location. For different location, this condition could be varying Duration of Check: 5 Mins
Step 3	Service Manager Activities
Step 3A	Sub Process: Service Engineer Activities

Sample Pattern

Minutes	5	5	5	5
Tyre Pressure	35	30	25	22
Location	Chennai	Chennai	Chennai	Chennai

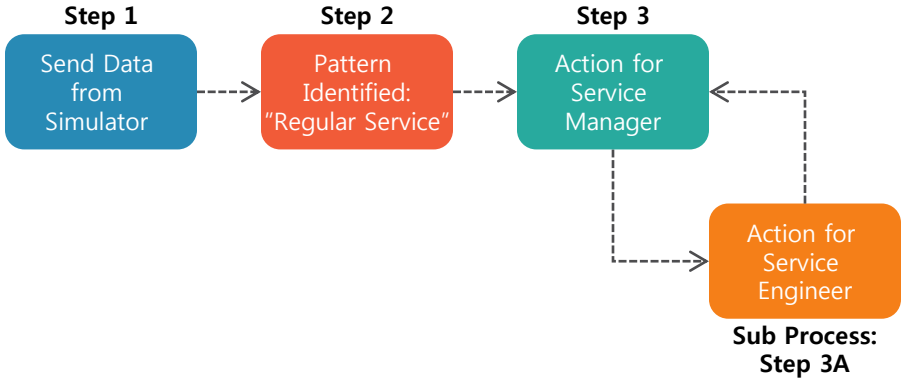
Action for Service Manager (SM):

1. SM will get a notification
2. Trigger Straight Through Process to SE

Sub Process for SE (Point 2):

1. Receives the request for work
2. Assist the Owner
    1. With the steps for replacing OR
    2. Suggest the dealer based on proximity

Illustration Four – Service Request



Steps	Activity
Step 1	Simulator will send the data for Km run
Step 2	Pattern Matched: If the vehicle km has reached 10000 comparing to previous service.
Step 3	Service Manager Activities
Step 3A	Sub Process: Service Engineer Activities

Action for Service Manager (SM):

SM will get a notification, if the km had reached 10000 compared to previous run

SM has to trigger the following workflow:

1. Inform the Owner
2. On confirmation of servicing, Assign Service Engineer (SE)
3. Verify & Close the Process

Sub Process for SE:

1. Receives the request for work
2. Service the Vehicle
    1. Follow the Guide & Perform regular service
    2. Order the parts