Automation of FTTx Desktop Site Validation

GeoSmartIndia 2022
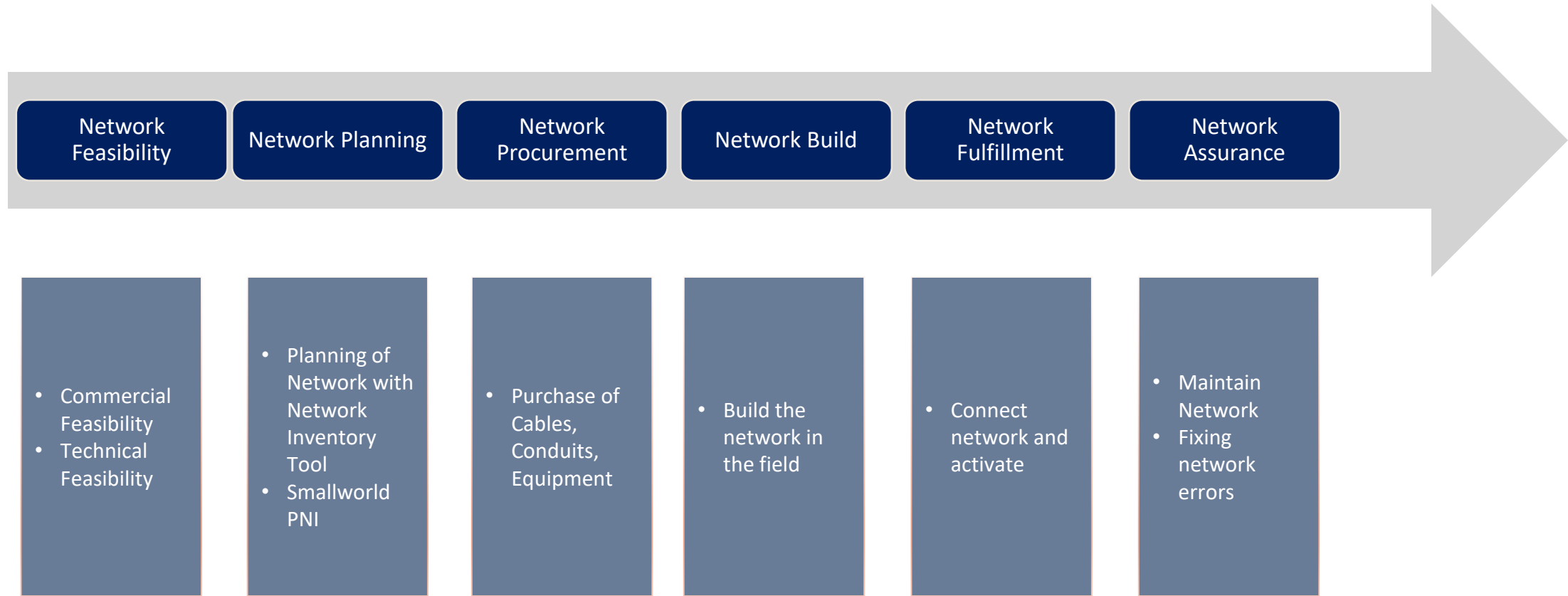
Presented by

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AGENDA

✓ Telecom Network Journey

✓ FTTx Site Feasibility Automation - Evaluation

✓ ABOUT FTTX DSV (DESKTOP SITE VALIDATION)

✓ FTTX DSV AUTOMATION – TECHNICAL ARCHITECTURE

✓ FTTX DSV AUTOMATION – AUTOMATED PROCESS

✓ FTTX DSV AUTOMATION – SHORT DEMO

✓ FTTX DSV AUTOMATION – BENEFITS ACHIEVED

Telecom Network Journey

Network Feasibility	Network Planning	Network Procurement	Network Build	Network Fulfillment	Network Assurance
• Commercial Feasibility • Technical Feasibility	• Planning of Network with Network Inventory Tool • Smallworld PNI	• Purchase of Cables, Conduits, Equipment	• Build the network in the field	• Connect network and activate	• Maintain Network • Fixing network errors

New Estate/Residential complex is coming up

Need Telecom & Broadband facilities

Estate Manager Applied New Connection in ISP Portal/Sales

ISP Received a New Sales Order Decomposed into Network Order

Network Feasibility Order-
ISP management want to know whether providing connection to this estate.. Commercially Viable?

Before spending money and effort –

Network Feasibility Study: An evaluation of your broadband project to determine the estimated capital and operational costs and the impacts of these costs on the financial viability of the project.

4

What is DSV
- DSV means Desktop Site Validation
- It will be carried out by planner to find the commercial feasibility of a estate/site for providing new fiber connection

Who will use DSV
- FTTX Planners
- FTTX Sales

How was achieved DSV
- GESW
- Google Maps
- Excel sheets

What to get
- Feeder Spur
- Feeder Link
- DSV Report
- PDF Report

Feeder Spur: This is the distance between cabinet of estate to nearest manhole. It signifies the new network going to lay to provide connection to the customer.

Feeder Link: This the network distance between nearest manhole to OLT/BTS. This will be traced along network for the same owner of Manhole.

DSV Report: Excel report contains all DSV details like nearest manhole, nearest OLT, Feeders spur, Feeder link distances, Sign

PDF Report: Quick layout screenshots of Feeder spur and Feeder link level to provide contractor to conduct a site visit for technical feasibility
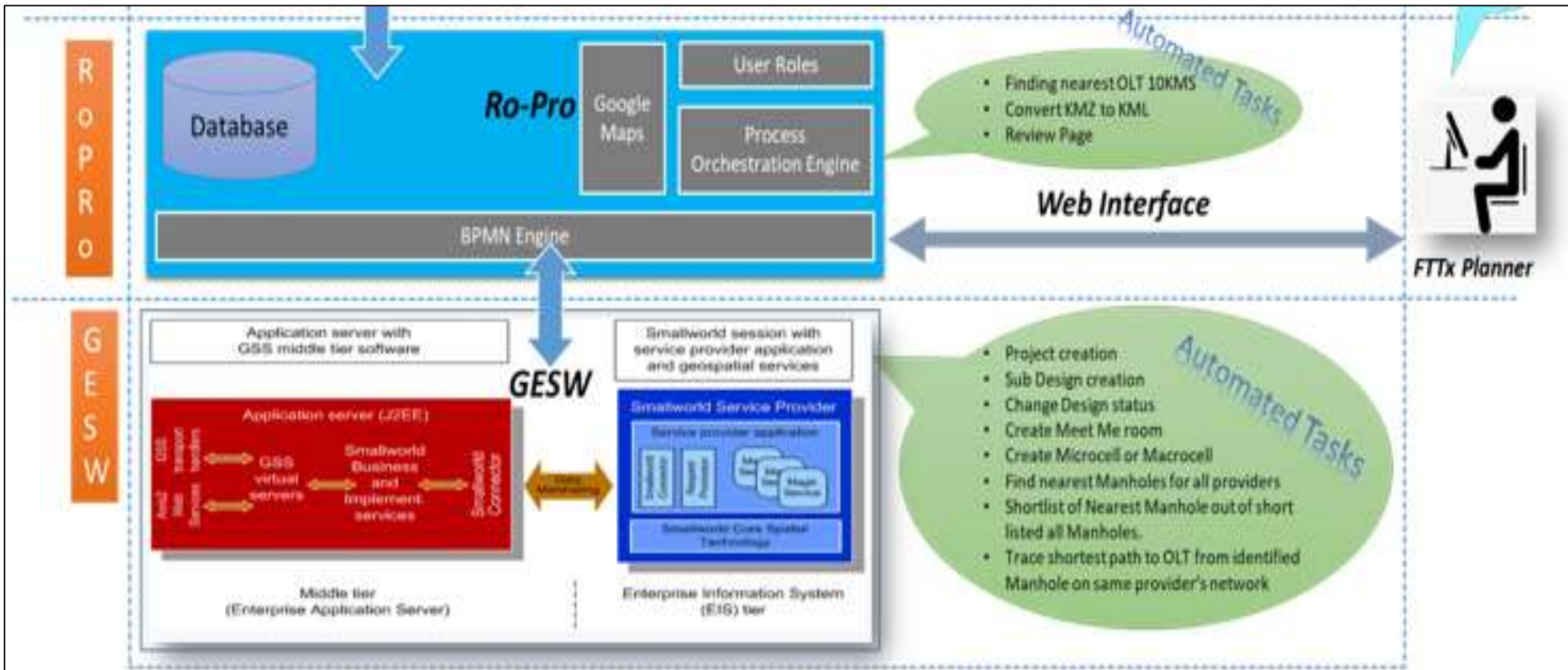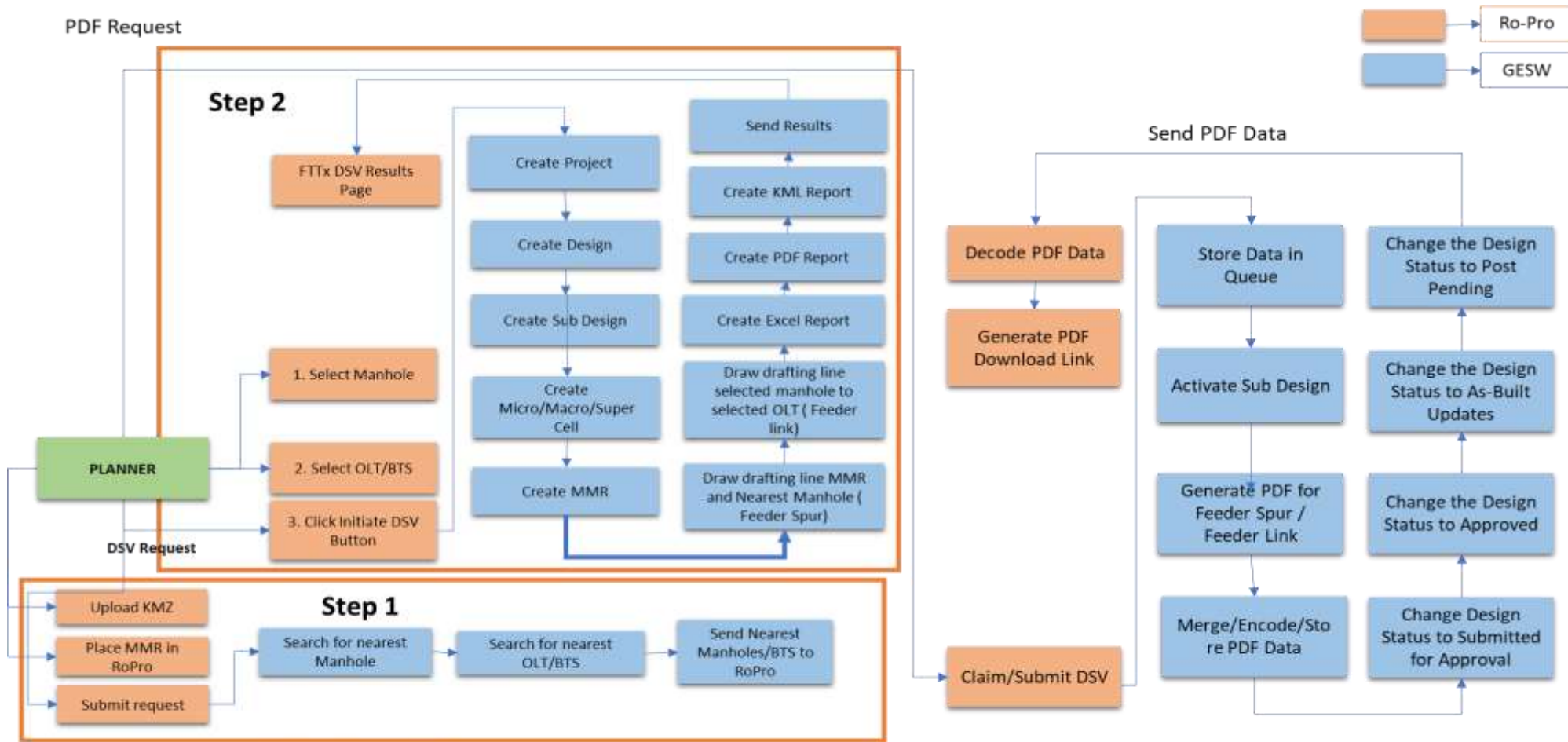
Technical Details

- GE Smallworld PNI – Physical Network Inventory
- RoPro – TechM developed BPNM Tool
- Smallworld GSS – Geospatial Server
- SOAP and REST services
- Asynchronous Services

Technical Challenges

- Server Crashes when two more users Performing DSV Automation
- OEM suggested not to go with automation as Server crashes
- Architected & Designed complex threading process to address above
- Tested almost with 20-30 Simultaneous request every thread will execute successfully without crashing
- PDF generation – Inevitable to open one session – Automated PDF generation
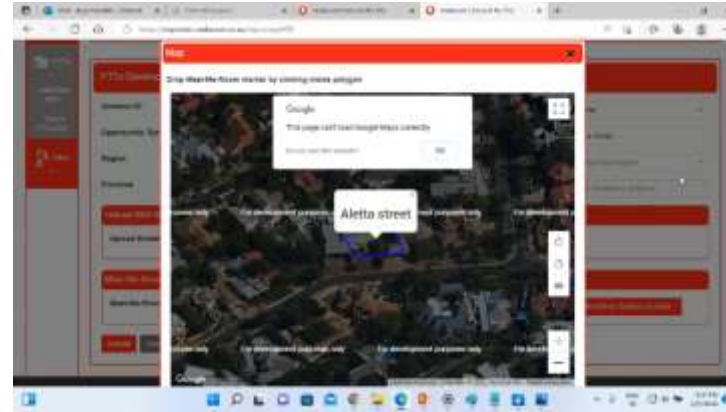
Highlights
- ✓ User need to perform only 2 steps in RoPro
- ✓ All Steps in GESW steps are critical
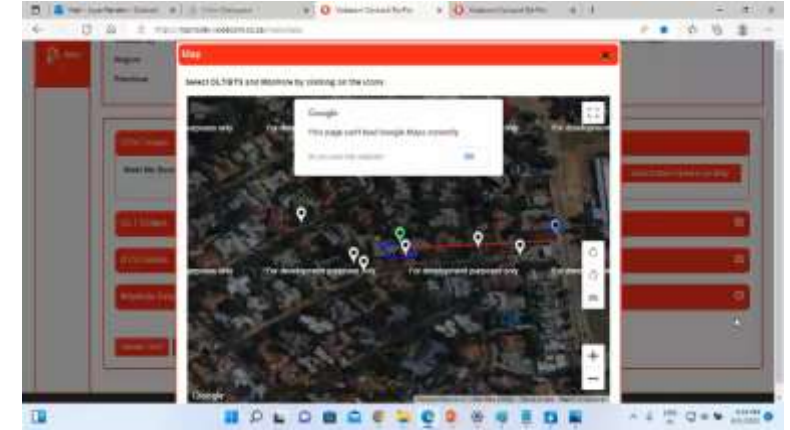- ✓ All Steps in GESW are Automated
- ✓ No Need to Open GESW

* Time taken for each DSV – 15 mins

- All steps of GESW Automated
- No need to open GESW

FTTx DSV Automation – Short Demo

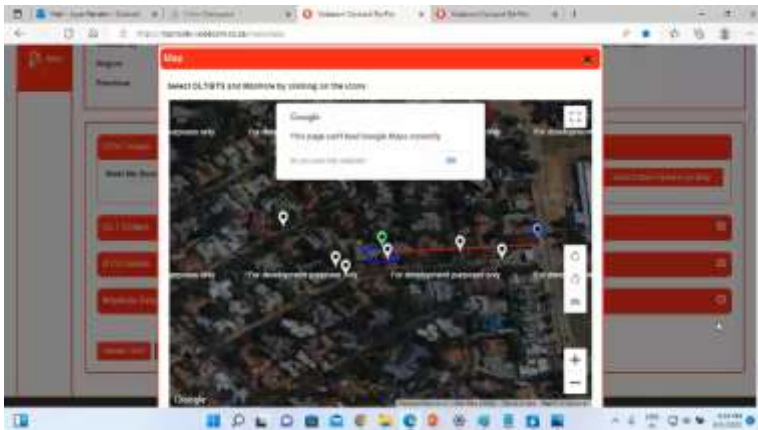**Step 1** : Upload Estate boundary Select MMR
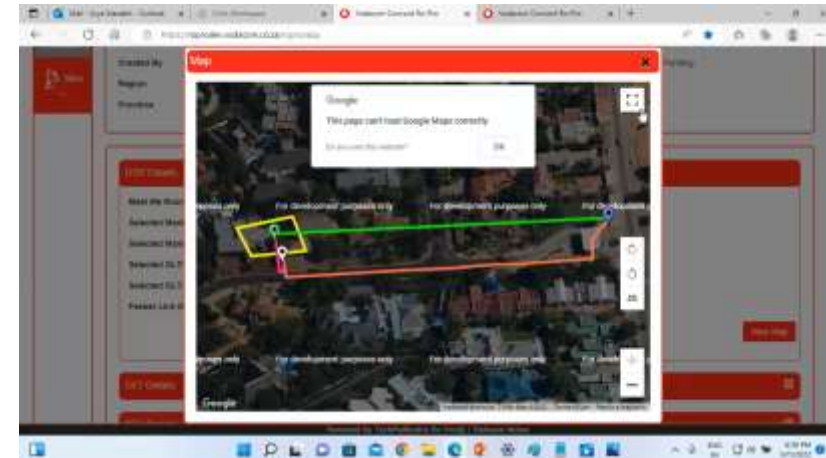

Step 1 : Place MMR in RoPro Map

Step 1: Returning Results of Nearest Manholes and OLTs from GESW
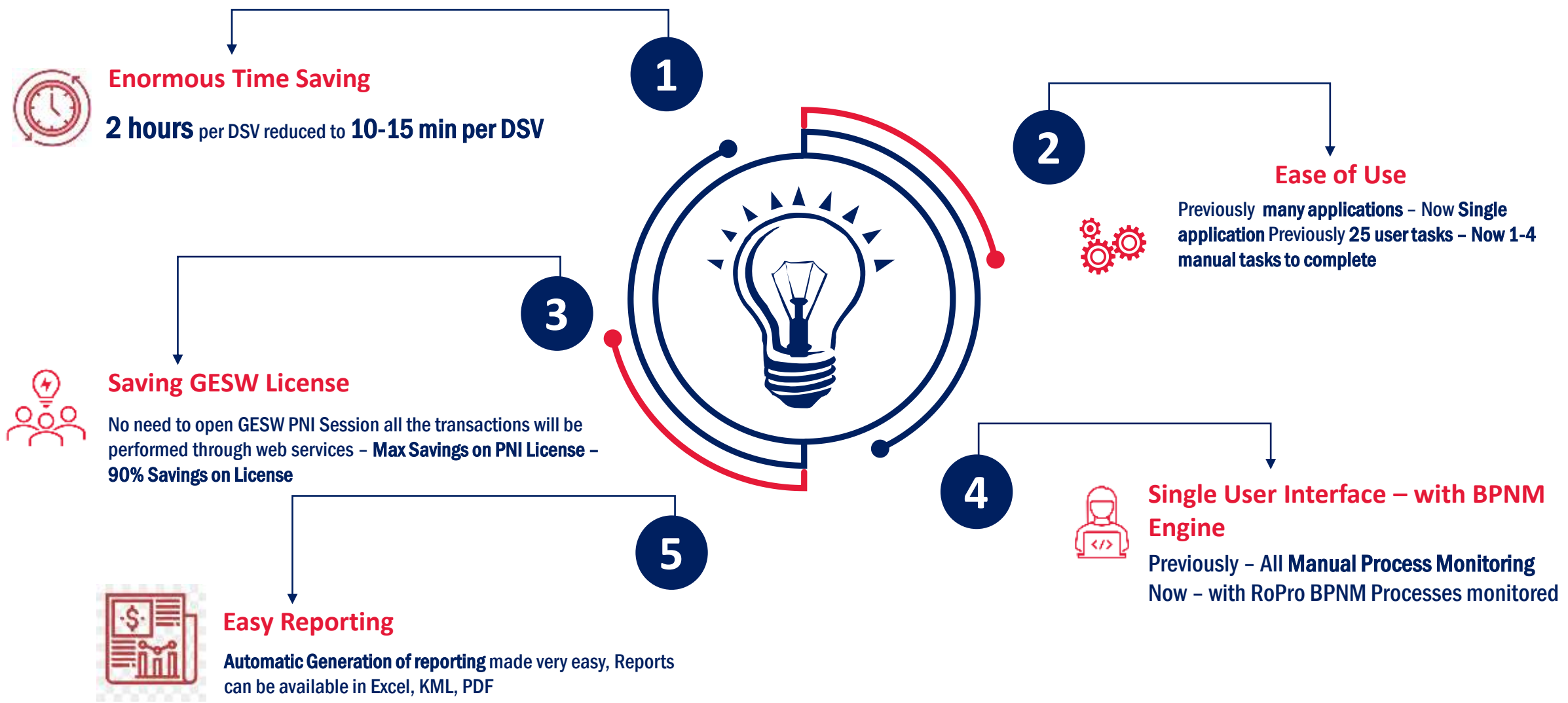

Step 2: Select Nearest Manhole and OLT/BTS and Initiate DSV

Final Result of Feeder Spur and Feeder Link created in GESW and sent to RoPro – Display in RoPro

1

Enormous Time Saving

2 hours per DSV reduced to **10-15 min per DSV**

2

Ease of Use

Previously **many applications** – Now **Single application** Previously **25 user tasks** – Now **1-4 manual tasks to complete**

3

Saving GESW License

No need to open GESW PNI Session all the transactions will be performed through web services – **Max Savings on PNI License – 90% Savings on License**

4

Single User Interface – with BPNM Engine

Previously – All **Manual Process Monitoring** Now – with RoPro BPNM Processes monitored

5

Easy Reporting

Automatic Generation of reporting made very easy, Reports can be available in Excel, KML, PDF

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