

# Future-Proof Engineering and Construction Workflows with Intelligent Design

*Overcome traditional workflow challenges and unreliable data with integrated EAM and GIS*

## Unreliable data holds you back

Traditional paper-based approaches to pre-construction surveys, CAD design, and as-built documentation lead to poor data quality and unreliable systems. Studies show an average [4% error rate](#) for manual single-entry data. Plus, it's slow and inefficient. Demands on today's data are making this situation more urgent.

The disconnect between fieldwork performed by staff and field data maintained in the office can be so vast that operations suffer; poor decisions occur both in the field and in the office, and making data updates can be a lengthy, multi-step process.

## Build reliable data today

Taking a modern, intelligent approach to your end-to-end construction workflow means accurate data is built as the work is conducted in the field. Selecting the right toolsets native to your GIS, EAM, and work management systems means no more data handshakes. Your team can leverage their expertise better because the interface is tuned to their needs, showing them layers and tools relevant to the work.

Lemur mobile mapping, combined with Automated Utility Design (AUD), supplies an integrated solution that streamlines workflows using automated functions, productized system integration, and digital tools. Engineering, operations, and GIS can work seamlessly together to improve planning, analysis, and data capture before, during, and after projects. Staff can employ intelligent design solutions to work smarter, faster, and with greater accuracy and performance.

## Intelligent design plus modern mobile mapping

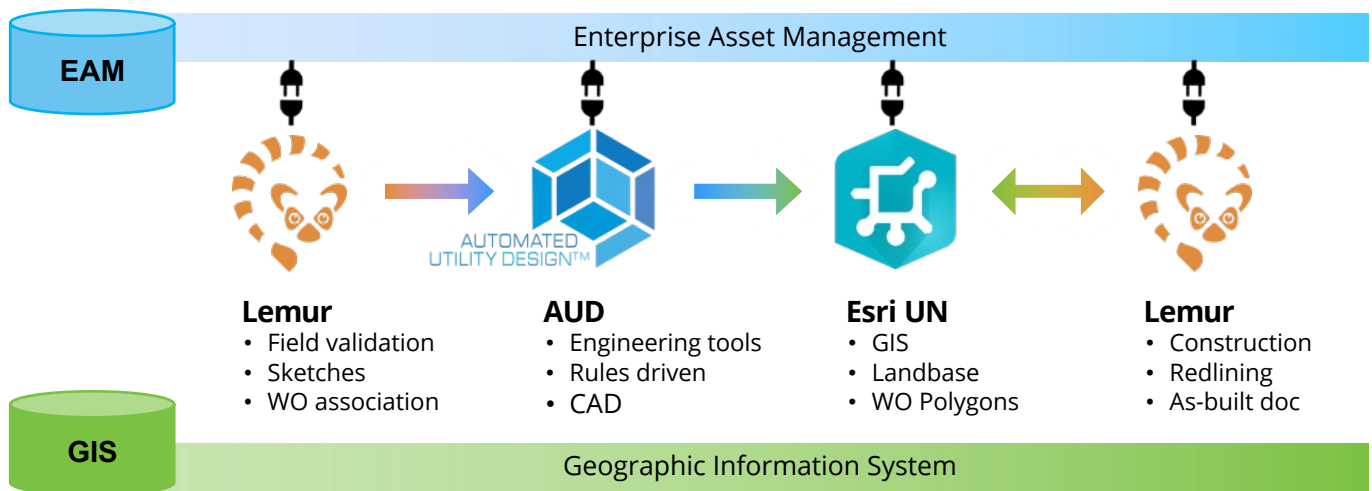
- Create a system of recording data as your team works
- Generate reliable data with tools native to the system of record
- Streamline the workflow handoffs with digital information

## Intelligent design with Lemur + AUD

Lemur and AUD both create GIS data as your teams perform work. They enable an integrated, comprehensive EAM and GIS workflow. Designed with the user in mind, these solutions require little to no training for your staff.



Locana, a TRC Company's Lemur empowers your team to validate survey results, make adjustments in the field, and correct asset details as they go. Lemur is built on top of Esri's ArcGIS and natively works with your GIS while focusing the tools on what's needed to get the job done. Field validation results are sent to GIS for direct use in AUD.



SBS's AUD is a CAD-based engineering design tool that works with GIS, creates GIS data, and validates the design as you build it. The user experience with AUD is seamless for designers trained on AutoCAD and gains the ERP benefits like automatic bill of materials creation. Designs built in AUD follow engineering standards, including rules from Esri's Utility Network.

Once design is complete, the construction crew receives the digital design with Lemur and can build directly from there. As equipment is placed, technicians barcode-scan the specific item to capture asset details for the record already in GIS. Any adjustments to the design are captured with redlining tools and sent directly to the GIS.

### Things to Remember

1. Inefficient workflows, due to physical paperwork and data transfers
2. Unreliable data, due to GIS data creation from paper field sketches
3. Delays or inaccuracies, due to interpretations between survey, design, and construction

*Studies show an average 4% error rate for manual single-data entry*