

## Communication Network Solutions

**Our extensive experience in the provision of essential services (eg.NBN) and the delivery of critical infrastructure projects provides us with an intimate knowledge of even more complex networks, which means we know what to look for and what matters to you - enabling us to provide you with a completely customised solution.**

We collaborate with operators of electricity transmission and distribution networks, national telecommunication providers, wind and solar farms, utilities and mining sites, and are closely monitoring the developments in those sectors to service our clients better. Our innovative approach sees us continuously develop new solutions which drives better project and service outcomes for our customers.

Due to our history with SA Power Networks, we know utilities inside out and can produce detailed designs and solutions to different specifications. We understand the risks associated with working close to utilities, including gas pipelines and incorporate all relevant safety considerations in our designs.

Enerven are based right here in Adelaide. Not only are we a dependable partner for South Australia's energy and communication sector needs, we're expanding nationally.

### Our Capabilities

Enerven's Communication Network Solutions (CNS) capabilities include: Fibre, Small Cell and Micro Cell for 4G and 5G Mobile Networks, Full micro cell SAED (Site Acquisition, Environment and Design), Optical Ground Wire, Mini Fibre, Copper, Radio Tower and SCADA (Supervisory Control and Data Acquisition).

#### Fibre

As leaders in the field of fibre installation, Enerven will deliver you innovative and proactive solutions to suit your needs. We have teams of experienced in-house designers and skilled technicians who are experts in providing outstanding results. We use the latest technology and our considerable market presence, to connect you: Simply. Quickly. Smartly.

Underground fibre hauling and splicing is used extensively in dense urban environments, like central business districts (CBDs); but this type of fibre roll-out is also used in suburban and rural environments too. With around 40 experienced staff across both hauling and fibre teams, Enerven has a strong presence in this field. From small to large projects, we have installed approximately 25,000kms of underground fibre: And counting!

### Small Cell and Micro Cell for 4G and 5G Mobile Networks

Enerven CNS has been building its telecommunications capability since our successful selection as business partner for the NBN project in 2012. Since the early beginnings, Enerven has been awarded the Number 1 delivery partner nationally for 5 out of the last 6 quarters, and this is supported by having an extremely strong relationship with NBN Co.

We are seeing new opportunities in the wireless telephony space especially on 4G In-Fill and 5G small cell deployment.

#### Full micro cell SAED (Site Acquisition, Environment and Design)

We can reduce the time for traditional site acquisition by two thirds using LiDAR scanning and data mining. We can build you a 3D model of a suburb that allows you to view, interact and measure existing vegetation, infrastructure, buildings and more, with enough accuracy that you may not ever have to attend site. Saving time and money by avoiding rework and sites that fail for any number of reasons.

Utilities a pain? Not a problem. We have built a team of town planners that will do all the hard work for you and get all your applications in place, from DC6 to DA. We are a subsidiary of SA Power Networks so we know all the hoops you need to jump through. So, consider it done, from FAA, Form A, pole condition /structural assessments and reports and EME certification. We can do it all.



## Energy Infrastructure

Once all your applications are in, we can design and build the network for you too, including the fibre backhaul. We have full in-house civil capability for trenching, duct and pipe along with the technical expertise to allow for commissioning and power up of the site. From start to finish, you can employ a light touch method and have full confidence that your project will be taken care of by experts in the field.

So, if you are looking for a full turn-key business partner with in house technical design and construction capability, then look no further.

### Optical Ground Wire (OPGW) – For faster data transmission

Optical Ground wire, or OPGW, is a type of cable that is used in High-Voltage overhead powerlines. These cables combine the functions of grounding and communications. An OPGW cable is made up of a tubular structure with one or more optical fibres, surrounded by layers of steel and aluminium wire conductor. The optical fibres within this cable can be used to transmit voice and data at high speeds.

The conductive part of the cable bonds adjacent towers to earth ground and it also shields high-voltage conductors from lightning strikes.

Our skilled field staff are all experienced in OPGW enclosure preparation and splicing. We have delivered over 1,000kms of OPGW splicing and testing on numerous projects throughout the states of South Australia and Victoria.

### Mini Fibre – Tiny technology. Big impact.

Mini fibre is most often used in installations where the pit spacing is up to 4kms apart. Multiple carriers can share one fibre sheath, but they can also break their own tubes into individual splicing pits. This means that cables can be redirected by simply connecting the tubes.

As specialists in this field, we have an expert team who are trained and experienced in the installation of water-jetted mini-fibre cables, and bundled blown fibre. With projects delivered for SA Power Networks and ElectraNet, we have installed over 180kms of mini fibre: Easily making us specialists in this field.

### Copper

Enerven's Copper Team is committed to delivering innovative and reliable copper network design, construction, maintenance and restoration. Our highly skilled and experienced team is comprised of over 50 people who specialise in this field and with such a broad range of experience and highly sought-after skill-set, our team aims to provide the best solution for you.

### Radio Tower Capabilities

Radio base stations are used for transmitting a range of communication services, including emergency services, private communications and mobile networks. These stations use towers, masts or monopoles, or utilise building rooftops in high density areas, to provide the best possible coverage for customers. Enerven has unique experience in delivering radio tower projects in metro and rural areas.

Understanding what you need and the processes involved in delivering complex projects is part of what we do best. We hear you: Loud and clear. Similar to our capabilities within the small cell wireless space, we can provide a full turn key experience from start to finish, being able to undertake all Predesign, Design (SAED) and construction works. From scoping to commissioning and power up, we have the in-house knowledge and contacts to complete the site according to your specifications – wherever you may need it.

It's great to know what you want to achieve, but a successful project requires the right amount of planning. The end-to-end delivery of a radio tower project is no exception, we collaborate with you all the way. From Radio Frequency engineering, through to feasibility reports and candidate assessments, site acquisition, council approvals, low impact solutions, construction design, delivery, and completion, we deliver everything you need. We're here to make it happen.

### SCADA – Supervisory Control and Data Acquisition

Here at Enerven we can design and build your SCADA system that gives you the power to fine-tune your knowledge of your systems. As a subsidiary of SA Power Networks, we can leverage off extensive experience in SCADA systems built and maintained in the South Australian Power Industry. We can design and build a system that will monitor, control and operate all critical aspects of your business giving you a more detailed view of your operations and real-time operating capability.

From complex manufacturing processes, large electrical plants, etc., you can have an eagle-eye view of every event while it's happening - and that means you have a knowledge base from which to correct errors, respond quickly and improve efficiency. With our designed and built SCADA system, you can do more, at less cost, providing a direct increase in profitability.

### What is SCADA?

SCADA: Supervisory Control and Data Acquisition refers a wide range of remote Monitoring and control systems including:

- Power distribution
- Oil and Gas
- Water and Waste treatment systems
- Transportation
- Energy Production
- Telecom infrastructure

## Project Delivery - Experience is priceless

Utilising our extensive project management experience, Enerven will provide you with everything you need to successfully deliver your project. We boast one of the most dynamic project delivery and telecommunications teams around. Our project delivery team deliver projects to multiple clients across the CBD, metro, and remote areas. With their experience in complete delivery, from scoping and candidate selection, through to design and completion, they're tough to beat. Throughout the project life cycle, we place an emphasis on safe work practices; with a stringently assembled HSE framework, covering all aspects of delivery, our projects are supervised to ensure safety, as well as compliance: We leave nothing to chance.

## Technical Design

We have a broad range of technical design capability, delivering tailored technical design solutions for telecommunications networks, including communications, digital, electrical and spatial designs. Our technical solutions assist operators of energy infrastructure, utilities and telecommunications providers to better monitor and maintain their assets and deliver redundant backup solutions using the latest technology and an innovative approach.

Our technical design team is multi-skilled and multi-functional which allows us to devise tailor-made solutions to meet your communications, digital, electrical and spatial design needs.

### Our capabilities include:

- Microwave and radio network design
- Software development (including CAD)
- Spatial design
- Telecommunications network design (fibre, radio and copper)
- Project management and stakeholder engagement
- Surveying and scoping of asset & Geotechnical services
- Relocation of telecommunications infrastructure
- Design and construction of electric vehicle recharge stations
- Pole load design and calculations
- Power connection design
- Underground fibre and copper network design
- Single line and straight-line drawings
- Engineering data collection

Working with the National Broadband Network (NBN) in South Australia and Northern Territory since 2012, we have established ourselves as a valued, dependable design and construction delivery partner, working closely with the local NBN team to troubleshoot issues and deliver solutions.





### **The People. The Skills. The Technology.**

Having the latest in technology means nothing without the people and the skills to deliver: We have it all. With expert teams utilising methods at the forefront of technology, we will provide you with all you need: Surpassing expectations and ensuring success, every time.

### **Where we operate**

Each industry sector we operate in has its own unique set of technical standards, requirements and solutions, ranging from proven and established processes to technologically ground-breaking concepts. Enerven's utilities industry exposure, along with comprehensive process and optimisation experience, ensures we are uniquely skilled to provide unique tailored design solutions that have a direct and tangible impact on your businesses investments.

### **Why Enerven?**

We develop solutions with customers and communities to enable them to choose, create and adapt how they connect with, make, store and use energy, on their terms. Enerven began as a division of SA Power Networks<sup>1</sup> and, over fifteen years, has grown into a market leader.

Building on the 100-year foundation, Enerven is a proven expert in the development of major infrastructure, energy and telecommunications solutions.

#### **Proactive, Collaborative, Dependable**

Our values are the DNA of our business. They embody what we stand for and focus firmly on our customers' needs to accomplish long term, sustainable improvements that are reliable, maximise profitability and minimise costs. Further to this, at Enerven, everything we do is underpinned by an unrelenting focus on safety and wellbeing.

**We build our customers' vision. Our driving ambition is to connect you with tomorrow.**

### **Who We Are**

**Enerven, an SA Power Networks Company, provides a range of construction and maintenance services, including fibre installation, to clients both within SA and nationally. We believe innovations and technology will continue to drive efficiencies, but no more so than the experience, knowledge and capabilities of our people.**

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