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Author: Mell Greenall, BYDA CEO





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Introduction

For more than thirty years, Before You Dig Australia (BYDA) has been at the forefront of promoting safe excavation – playing a pivotal role in fostering collaboration among the construction sector, home owners, developers, planners, and Australia’s utility owner/operators.

BYDA is positioned as Australia’s voice for damage prevention, due to its leadership in bridging the gap between the public, industry professionals, and utility owners, ensuring access to crucial safety guidelines and comprehensive utility plans. This facilitation of collaboration is central to BYDA’s mission of: Zero Damage. Zero Harm. Zero Disruption.

BYDA’s role in damage prevention goes beyond merely supplying data; it spearheads initiatives to bolster community safety through its extensive offering of educational resources and up-to-date safety information tailored for those engaging with utility infrastructure. BYDA ensures that all stakeholders, from tier one construction firms to individual homeowners, are equipped with detailed knowledge of underground infrastructure, thus driving safer, more efficient project planning and execution.

The telecommunications industry is a crucial stakeholder in the BYDA service, the sector operates a critical and expansive communications network across Australia.

This essential network provides Australia’s communication services, underpinning not only individual connectivity but also the operational integrity of businesses, emergency services, and government operations. Despite this, the sector faces significant challenges in safeguarding its infrastructure from construction and excavation impacts.

These challenges include:

- **Limited awareness and use** of the BYDA service among contractors, consultants, and property owners, leading to insufficient risk mitigation or disregard for the provided guidelines and information.
- **A prevailing misconception** that damage to telecommunications cables is merely inconvenient, underestimating the severe disruptions and safety risks such damage can cause.

- **Federal legislation** such as the Security of Critical Infrastructure Act severely hindering the ability of the sector to support BYDA to move to a digital environment.
- **Inaccuracies in the utility asset information** provided by the BYDA service, which often fail to reflect the true condition, location, or depth of communications cables.
- **A lack of utility risk training and expertise** among contractors and consultants engaged in excavation, frequently resulting in damage to telecommunications infrastructure.
- **Inadequate monitoring and reporting** of damage incidents and compliance assessments with the BYDA service, which limits efforts to identify and invest in the implementation of necessary innovation and enhancements.

Australia's communications network is integral to daily activities across the nation, from personal communications to business operations including emergency response services.

Over the last 12 months BYDA has hosted a series of industry forums across the Water, Electricity, Gas/Petroleum, and Telecommunications sectors. These forums are designed to tap into the wealth of knowledge and experience from industry professionals to shape a practical strategy for BYDA to make significant improvements to services and support.

The primary focus is to align the sectors collective efforts towards addressing key challenges such as enhancing the exchange of digital plans and improving information quality for all stakeholders, alongside longer-term objectives like advancing skill development within the construction sector.

By doing so, BYDA aims to ensure the utility industry evolves in sync with the changing needs of its users, including the construction sector, enhancing collaboration within and between different industry groups.

This strategic approach will enable BYDA to support and lead this collective transformation, with a core focus on enhancing safety outcomes now and into the future.

About BYDA's referral service and benefits for the telecommunications industry

The BYDA referral service provides an essential online platform tailored specifically to assist people designing, planning or carrying out works near utilities.

It facilitates seamless enquiries for anyone planning to dig, excavate or work around infrastructure, delivering information on the location of underground assets within a specified area.

Serving as a unified access point, the service allows users to obtain data from multiple asset owners with just one query.

These members, integral to the BYDA network, are tasked with providing detailed guidelines and critical information to ensure safe operations around their infrastructure.

Adherence to these guidelines is mandatory for enquirers, who must also report any damages or discrepancies directly to the asset owners.

The key benefits of the BYDA service for the telecommunications industry include:

- **Significantly reducing the risk of damage** to telecommunications assets, thereby preventing service interruptions, safety hazards, and substantial financial repercussions.

- **Enhancing the reputation and customer satisfaction levels** of telecommunications companies by minimizing service disruptions and ensuring a more reliable network connection.
- **Strengthening partnerships** and fostering **enhanced collaboration** between telecommunications companies, other utility providers, contractors, and regulatory bodies.
- **Ensuring compliance** with relevant laws and regulations aimed at protecting underground utilities and safeguarding both worker and public safety.
- Delivery of **community and industry education** and awareness on the importance of managing utility risks.

Despite these advantages, the telecommunications sector continues to navigate challenges in preventing asset damage during construction and excavation activities. These challenges revolve around:

- improving awareness and compliance,
- improving the accuracy of asset information,
- enhancing coordination and communication of safety information,
- developing more robust training and skills, and
- implementing effective monitoring and reporting systems.

Awareness & Compliance



One of the critical challenges facing the telecommunications industry is the lack of awareness and compliance with information provided with the BYDA referral service, including construction workers and property owners.

This gap in awareness and adherence often leads to inadequate consideration of the locations of telecommunications assets during excavation, resulting in significant issues:

- **A heightened risk of damage** to telecommunications infrastructure, essential for seamless community and business connectivity. Any disruption can cripple communication, affecting everything from emergency services to daily business operations.
- **The financial impact of repairs** is substantial, telco companies often bear the high costs of fixing damaged infrastructure. These expenses are exacerbated by the difficulty in recovering costs from those responsible for the damage
- **Reputational damage** is a serious consequence when service disruptions affect the wider community, leading to dissatisfaction and potential loss of business.

Discussed at length during the recent BYDA telecommunications forum was the community's general perception that telecommunications assets are low-risk, due to their being minimal chance of physical harm.

This misconception leads to complacency, underestimating the serious repercussions that can arise from damaging these critical assets. To address this, BYDA and the telecommunications sector are intensifying their efforts to shift public perception.

The plan is to use educational campaigns that highlight the critical dependence of communities and businesses on reliable telecommunications services and the severe financial and operational impacts of infrastructure damage. These initiatives will include distributing detailed case studies and incident reports through BYDA's educational materials, newsletters, and social media platforms, aiming to enhance awareness and ensure compliance with the 5 P's of safe excavation.

...community's general perception that telecommunications assets are low-risk...



Commercial Users vs Domestic Users

The telecommunications sector, along with its counterparts in electricity, gas/petroleum, and water, recognises a critical challenge in effectively serving both commercial and domestic markets.

A notable shortcoming across the Australian utility sector is the exclusion of residential lead-in connections on the utility plans provided. This discrepancy often leads to significant frustration among homeowners, who, despite encouragement to obtain Before You Dig plans, find these documents provide limited practical value for DIY projects within their own property boundaries.

This is particularly problematic given that these residential connections are among the most frequently damaged assets.

Addressing this issue prompts an essential question: "Is the referral service effectively meeting the needs of domestic users?" Currently, the industry consensus leans towards "No". Recognizing the urgency to bridge this service gap, BYDA is poised to take a leadership role in crafting a viable solution.

A promising solution under discussion involves tailoring the information provided to domestic users, particularly those engaged in DIY projects. The idea is to develop simplified Fact Sheets that help homeowners identify their lead-in connections more easily. This initiative would require collaboration across the telecommunications, electricity, gas, and water sectors, each contributing their unique insights due to the different nature of their infrastructure.

"Is the referral service effectively meeting the needs of domestic users?"

However, the telecommunications sector, operating under a single national regulatory framework and often sharing infrastructure, is well-suited to pilot this project.

Creating a unified, co-branded guideline for homeowners could significantly enhance the usefulness of the BYDA service for residential users, demonstrating industry leadership and commitment to improving damage prevention outcomes across all user groups.

The Digital Challenge

The telecommunications sector, much like other utilities, is grappling with the challenge of adapting to a digital-first environment. The hurdles to this transformation include:

- **Regulatory constraints**, such as those imposed by the Security of Critical Infrastructure Act, which undermines the sectors confidence and ability to distribute BYDA plans digitally.
- **Limited resources and capabilities**, including budget constraints within telecommunications companies to update and maintain accurate asset information, alongside inadequate systems for collecting, verifying, or storing this data.
- **The absence of mandated standards or regulations** that stipulate the required accuracy for asset location plans.
- **A lack of robust feedback loops and verification mechanisms** with the construction industry to help update the accuracy of telecommunications asset locations when as built, surveyor drawings, or locator markings have revealed discrepancies in the provided plans.

Feedback from the sector forums, including the Telecommunications sector, reflects broader concerns that BYDA has identified.

A survey of 200 power users of the BYDA service highlighted a significant demand for moving to digital information delivery. However, there is growing concern about the accuracy and consistency of the provided plans. With competitor apps introducing digital and augmented reality views of utility assets (despite these often being based on digitised BYDA plans), BYDA now faces the risk of digital disruption within Australia.

Utility asset owners risk losing visibility and influence over activities near their infrastructure...

This situation jeopardises BYDA's role as a trusted source of information, leading users to prefer digital convenience over traditional, detailed asset information PDF's and additional support from asset owners.



This challenge goes beyond digital adaptation— it represents a dangerous fragmentation of services, diminished transparency, and the risks of uninformed excavation activities, perpetuated by outdated delivery formats like PDFs.

If BYDA does not address issues related to its members plan accuracy, repetitive responses, and the broader industry call for modernization of information delivery, BYDA's future relevance and operational effectiveness is in jeopardy.

Diminishing member ability to engage in these crucial change efforts further exposes BYDA to the risks posed by digital competitors and open-source data platforms.

The consequences of resisting digital change is high.

Utility asset owners risk losing visibility and influence over activities near their infrastructure, diminishing their capacity to enforce essential safety protocols. This will lead to more frequent asset damage, potential injuries, loss of reputation, loss of network integrity and operational inefficiencies.

The imperative for BYDA and its members is clear: embrace proactive change to ensure the system remains robust, efficient, and steadfastly focused on safety within the utility and construction landscape.

Training and Skills

Participants in the telecommunications forum highlighted an urgent need to bolster skill development within the construction sector. This need is supported by the release of BYDA's Damage Data Dashboard, which shows more than 50% of all damages to utility infrastructure are linked to Construction and Building works.

Enhancing educational and training frameworks is critical to minimising the risk of damage to utility infrastructure during construction activities. Specific areas identified for improvement include:

- **Utility Risk Awareness and BYDA Service Integration:** It's essential to embed fundamental utility risk awareness, usage of the BYDA service, and the skills for interpreting Utility plans into the existing construction White Card training. This training is mandatory for new entrants into the construction workforce and plays a crucial role in preventing damage to utility infrastructure.
- **Damage Prevention skills imbedded into all building and construction qualifications:** There's a strong need to incorporate in depth utility risk management and damage prevention principles including utility plan reading skills into the apprenticeship and qualification

programs for key trades that engage in ground-breaking activities. These trades are often at the front lines of construction projects that can impact underground infrastructure.

- **Traineeship for Professional Utility locators:** Current locator training, particularly the RIICCM202E unit, falls short of delivering the depth of training required for safe and effective utility location. The development of a Traineeship for Professional Utility Locators, crafted in close consultation with Utility owner/operators, will foster a trusted and recognized career path. This initiative will not only reduce the frequency and severity of utility strikes but also support industry productivity by minimizing project delays and repair costs due to infrastructure damage.
- **Licensing for Excavator Operators:** Introduce a national a licensing program for excavator operators that covers extensive training on utility risks, damage prevention, and plan interpretation is critical. Excavator operators frequently work in close proximity to buried utility assets, and improper digging techniques, as well as a lack of awareness of the presence of underground assets can lead to infrastructure damage and safety hazards.

Expanding these training initiatives is not just about reducing the likelihood of service interruptions; it's about ensuring the resilience of the telecommunications network that our community heavily relies on for emergency services, business operations, and everyday communications and connectivity.

By raising the standard of training and licensing, the construction industry can better safeguard these vital assets, ultimately supporting the robustness and reliability of the national telecommunications network.



Third Party Damage Reporting

The telecommunications sector, like the utility industry as a whole, lacks consistency in how the sector captures and reports on third party damages.

While some telecommunications operators capture detailed damage information, others do not and traditionally there has been no culture of shared learnings across operators, despite acknowledging that third party damage often impacts multiple operators simultaneously due to the shared infrastructure and trench space.

This industry-wide lack of consistent reporting and sharing leads to:

- **Increased frequency and severity of damages** to telecommunications infrastructure, as the underlying causes and consequences might not be fully understood or corrected.
- **A decline in the efficiency and effectiveness** of the BYDA referral service, due to a lack of thorough assessment of its user experience strengths and areas needing improvement.
- **Diminished opportunities** for learning and innovation within the telecommunications sector and other BYDA

stakeholders, due to insufficient capture and sharing of insights from damage incidents and user compliance with BYDA evaluations.

Contributing factors to this issue include:

- **Resource and capability shortages** within some telecommunications companies for collecting and analysing data on damage incidents and BYDA service compliance, along with limitations in systems for gathering, processing, or storing this data.
- **A lack of uniform standards and consistency** in the recording and reporting of damage incidents and data across telecommunications companies and other stakeholders, leading to variations in data format, frequency, and quality.

Recognising its pivotal role in damage prevention, BYDA has taken proactive steps to lead the resolution of these issues by introducing a Damage Data Dashboard.

This tool is designed to standardise the collection and sharing of data on damage incidents across the electricity, gas, telecommunications, and water sectors.



The dashboard employs a simplified template that captures essential information—the “what, where, and when” of each incident—using only seven anonymised fields. This template has already been distributed to all forum participants, with a goal to integrate the collected 2023 incident data from participating utilities data by June 2024.

Support from BYDA telecommunications members for this strategic initiative is critical for ensuring that the telecommunications sector is well-represented in the forthcoming trend analysis report and economic impact modelling, scheduled for the latter half of 2024.

By leading this effort, BYDA is positioning itself at the forefront of industry-wide improvements, aiming not only to enhance data accuracy and reporting standards but also to drive strategic interventions such as education and training that safeguard crucial telecommunications infrastructure.

This industry leadership is essential in fostering a more resilient, efficient, and innovative telecommunications landscape.

Conclusion and Future Directions



BYDA's mission is to promote an industry culture of enhanced damage prevention, with a focus on the telecommunications sector alongside other utilities.

Recognising its referral service is a vital safety tool, BYDA remains committed to evolving the service to meet the needs of diverse array of users—from major construction firms to individual DIY enthusiasts—while maintaining its steadfast goal of zero damage, zero harm, zero disruption.

Central to BYDA's strategic vision is not only a dedication to digital enhancement and improving user experience but also robust initiatives to promote skills development within the construction sector. Acknowledging the specialised knowledge required for safe work near utility infrastructure, BYDA is actively seeking to support the development of industry led educational programs. This includes advocating for enhanced industry training; integrating utility risk awareness, damage prevention principles, and utility plan reading in trade apprenticeships and construction qualifications.

Additionally, BYDA supports the introduction of a licensing program for excavator operators and a traineeship for Professional Utility Locators to ensure widespread industry competency.

A pivotal milestone for BYDA this year is the launch of the Damage Data Dashboard, a transformative tool designed to revolutionise how damage incident data is collected and shared with the electricity, gas, telecommunications, and water sectors. Designed with a simplified template focusing on crucial incident details, this platform aims to foster widespread participation among the BYDA membership.

The dashboard plays a critical role in BYDA's strategy to compile comprehensive incident data for trend analysis and economic impact assessments, and underpins BYDA's ability to create targeted industry engagement and intervention campaigns.

Meaningful change that drives damage prevention is not something BYDA can achieve on its own, it requires asset owners to view themselves not just as isolated entities but as essential partners in a larger, interconnected underground network. This shift toward a collective mindset is crucial for developing actionable strategies and advancing digital innovations that benefit all stakeholders.

The telecommunications sector's support in providing expertise, insights, and engagement in initiatives...is vital.

The telecommunications sector is crucial in this collaborative effort. As Australia's national network operators, the sector's commitment to digitisation, user experience enhancement, and shared safety initiatives is essential. The telecommunications sector's support in providing expertise, insights, and engagement in initiatives, like the Damage Data Dashboard, is vital.

BYDA is committed to working with its telecommunications members to create meaningful pathways to change, with a united front and collaborative spirit, we can drive significant innovation and improve safety practices. Ensuring that damage prevention strategies and tools are effectively implemented and lead to substantial benefits across the utility and construction landscape.



Zero Damage. Zero Harm. Zero Disruption.

 Level 19, 15 William Street Melbourne VIC 3000

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