# Building resilient infrastructure

A national project between CSIRO and Optus is working to mitigate bushfire risks to telecommunications infrastructure.

## What we've done

In Australia, bushfires are one of the biggest threats facing all industries that rely on critical infrastructure.

Since mid 2020, CSIRO and Optus have collaborated to assess the bushfire "loss potential" of all Optus sites across Australia and determine best-value upgrades to reduce vulnerability to bushfire hazards. Our aim has been to identify and mitigate bushfire risks to infrastructure and reduce hazards during extreme weather events such as bushfires.

As communities' reliance on communications increases exponentially during emergencies, improving network resiliency is critical for Optus' customers, and others who are seeking to contact emergency services by dialling "000", a service which any available network will pick up.

## How we did it

We studied and systematically profiled the potential and nature of impacts of embers, radiation and flame on and around Optus' sites with telecommunications equipment. We used these learnings to assess which sites were most at risk, and what site design changes should be Optus' commercial priority.
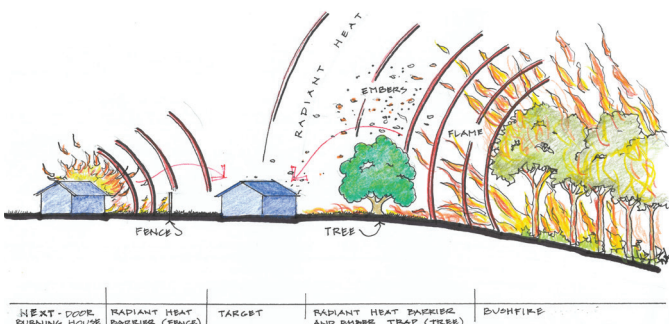


This illustration depicts some of the factors that threaten the resilience of telecommunication towers and supporting infrastructure.
Illustration by Sam Thompson.

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## What we've found

Optus is implementing the recommended mitigations at two of its sites in Victoria, Seville East and Dixons Creek, to act as showcase examples that a larger longer-term resiliency program can reference.

This project determined the best value return to reduce the network's bushfire loss potential and underpinned in-house training to improve employees' awareness of threats and preparedness to reduce them. Optus has also used these findings to identify and invest in the most impactful upgrades.

Importantly, this work provides learnings not just for Optus, but for any organisation that has infrastructure that may be under threat from bushfires.
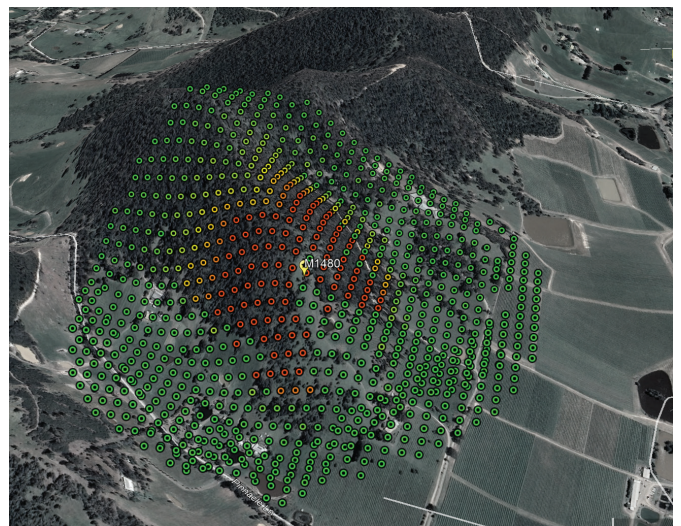


**This map shows how Optus infrastructure, such as the pictured Dixon's Creek Site in Victoria, is assessed for fire threat or building loss potential. Each coloured dot shows the level of hazard that location presents to the Optus infrastructure in the centre of the image. Locations are analysed for ember, radiant and flame threat, with the red dots showing the highest threat due to vegetation, proximity and slope at those locations. Locations with green dots may still pose some risk to bushfire, but don't pose as much of a threat to the infrastructure.**

**Contact us**

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