

# The legal minefield of 3-D printed guns

February 3 2017, by Richard Matthews

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A solid, non-working Colt 1911 static model by TaylarRoids is printed on a household printer; is this a digital blueprint? Credit: Richard Matthews

3-D printed guns are back in the news after Queensland set a [legal precedent](#) for giving Kyle Wirth a six-month suspended sentence for fabricating a number of gun parts.

As presiding Judge Katherine McGuinness acknowledged, Wirth didn't produce an entire gun – it took police to add a few key parts in order for the gun to successfully fire a bullet – but he was "trying to make a gun".

As such, she said "there is a real need to deter and protect the public from such offending".

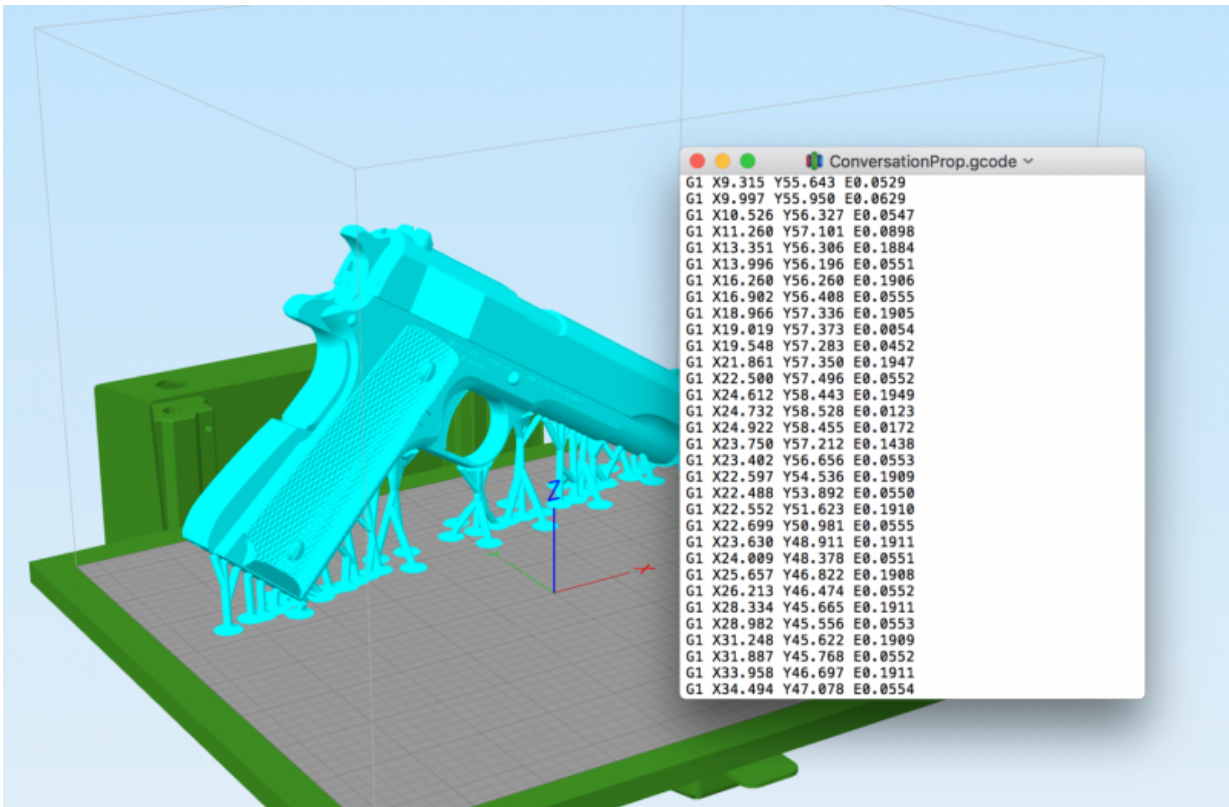
But if it's illegal to build a gun via conventional means without a licence, what's the concern over making guns using 3-D printers in particular?

And for those who are either researching the capabilities of 3-D printers – a form of additive manufacturing – or using them at home or in their business, it's important to understand the legal boundaries under which they can be used.

## **3-D printed firearms in Australia**

3-D printed guns currently occupy a grey area in terms of their legality in many jurisdictions around Australia. For example, the South Australian Police released a guide outlining which kinds of [imitation firearms are considered legal](#).

The distinction between a "regulated imitation firearm" and a children's toy is significant, as a South Australian man discovered in 2015. He was charged with a firearms offence after police found a toy gun in a box along with a single shotgun shell.



Is a list of coordinates in three dimensional space a digital reproduction of a technical drawing?

The judge [acquitted him](#) because the gun was clearly a child's cap gun and could not be modified to fire the shell.

However, according to the South Australian Police's guide, the "gun" pictured at the top of this article, although non-functional, is technically neither a "moulded imitation firearm" nor is it an "imitation firearm carved from timber, plastic or other material". This means it's unclear how it would be regarded by police or the courts.

New South Wales takes a different approach on the issue. The [Firearms and Weapons Prohibition Legislation Amendment Bill 2015](#) made it

illegal to possess digital files that can be used to manufacture firearms on "3-D printers or electronic milling machines".

The act was amended "to create a new offence of possessing digital blueprints", although the definition of a "digital blueprint" is a little ambiguous. As defined, it captures "any type of digital (or electronic) reproduction of a technical drawing of the design of an object". As written, this could even mean a photograph of a technical drawing. But technical drawing files are not always needed for 3-D printing.

In 3-D printing, drawing files are used to create [GCode](#), a computer control language used to guide the print head and the amount of plastic to extrude. Is GCode a digital reproduction? Even if it is, it does not stop someone 3-D printing gun parts in another jurisdiction in Australia or overseas where they're not illegal and then posting it back to NSW.

It was this fear that drove the Queensland Palmer United Party to introduce a bill in 2014 to make 3-D printing of firearms illegal. It was [rejected by the parliamentary committee](#) and never reintroduced.

When Labor took power in Queensland following the 2015 election, it defended the move and released a statement stating that "Queensland already has legislation dealing with the unlawful manufacture of weapons that carries with it some of the harshest penalties in Australia".

Hence Kyle Wirth was charged in 2015 with manufacturing [offensive weapons, including a plastic knuckle duster](#). He was not charged under any legislation that prevented him from 3-D printing parts, as the PUP bill would have outlawed.



The parts Wirth printed and stored in bags. Credit: Queensland Police Service

Plastic or not, it is illegal under [nationally unified gun laws](#) to make a gun without a licence. If this is the case, why did NSW feel the need to ban digital blueprints? The answer could come from the future prospects of 3-D printing.



## Towards the future

In the next 20 years we will be able to [print drugs](#), metals and substances at an [atomic level](#) – possibly all at home.

Regulation of these things is currently predicated on the idea that producing them typically required expertise and specialised equipment. But that may no be the case for long.

This will mean we need a new unified approach to legislation that specifically speaks to the capabilities of 3-D printers, and the distribution of the files they use.

New South Wales is the only state that has started outlawing the digital blueprints needed for additive manufacturing of illegal objects. This is a step in the right direction.

However, we need a classification of digital blueprints. [AustralianClassification](#) is already responsible for passing judgement on a wide array of media. In the future we will likely see such an agency extended to cover digital blueprints available or for sale to the public.

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