Robots are marching across our screens again. Arnold Schwarzenegger is back, just as he said, as T-800 Model 101. ‘Terminator Genisys’ is the fifth movie featuring the time-travelling, superhuman, 6-foot 4, skinless, metal-skinned, thermal-sensing, killing machine. And ‘Humans’, the new drama on UK’s Channel 4, started on 14 June. It’s adapted from a hit Swedish series. The sci-fi drama is set in a parallel present where the latest must-have gadgets for busy families are ‘Synths’, robots that look just like humans except for their spooky bright eyes.

The marketing for ‘Humans’ has been very clever, with a ‘Persona Synthetics’ website, mock ebay auction and even a store front in London’s Regent Street (p20). “I was duped,” said one marketing blogger. Really? Don’t you think you might have heard about it before the marketing campaign if it were real? And these Synths would be a bit of a stretch for even today’s technology. But it’s a sign of our technological times that anyone might be fooled, even for a moment. Convincing humanoid robots are still a long, long way off, but the possibilities of robotics are growing in the public mind.

Alices like cute, cuddly robots but they love big, bad, mad and mean ones. Robots have always had an image problem. This led Isaac Asimov to formulate his three laws of robotics (44), which first appeared in a story set in 2015, but implementing and enforcing those laws is easier said than done. The fear of the out-of-control robot is a staple sci-fi plot. I don’t know how it’s going to end, and I wouldn’t tell you if I did, but something will go wrong with the Synths in ‘Humans’. Let’s face it, there are lots of options, from viruses to rogue firmware updates to self-awareness. You’ll have to wait and see, unless you know anyone in Sweden.

Most robots in the world today are a far cry from Synths, doing repetitive jobs in factories. But the humble industrial robot is beginning to get out more. We visit the world’s largest civilian robotics centre in Australia (p46) and the world’s first robot hotel in Japan (p50). There’s plenty of military money going into robotics too. We catch up with Darpa’s latest walking robots (p54) which can now balance on their own two feet and can even climb stairs. We can see their eerily human walks on Youtube or in E&T’s tablet edition.

Humans can empathise with robots up to a point where they become too human, when they are seen as creepy and revolting. Empathy rises again as they become indistinguishable from real people. This dip is called the ‘uncanny valley’. When I came to plot screen robots on the humanlike/familiarity graph below I noticed the good robots are all to the left of the uncanny valley while the bad robots are all in it. Maybe we can just do without robots that look human, but we may still want them to respond in a more human way to us. Chris Edwards looks at developments in emotional processing (p58) while Ed Cara meets the results of research into how people interact with non-humanoid robots (p62).

**did you know...**

...fictional robots and the uncanny valley

People can empathise with robots that are obviously not human, those that aren’t quite like us are seen as creepy and uncanny

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<thead>
<tr>
<th>Character</th>
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<td>R2-D2</td>
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<td>Western</td>
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<tr>
<td>The Synths</td>
<td>(Humans)</td>
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Uncanny valley

0% Human likeness

50% 100%

Family

R2-D2 (Star Wars)
Wall-E

Martin (Hitchhikers Guide to the Galaxy)
Sonny (I-Robot)
T-800, human form (The Terminator)
T-800, skeletal form (The Terminator)
The Gunslinger (Western)
The Synths (Humans)

Digital art director 2014 (Tablet edition), John Rooney, shortlisted for BSME Rising Stars

‘Securing the Sale’ by Aasha Bodhani – shortlisted for BT Security Journalism Awards 2014

Editor of the year – shortlisted

Justin Pollard, Columnist of the year – winner

BSME 2014 Membership Magazine of the Year, Business Magazine of the Year
Shortlisted for Digital Product of the Year (E&T Online), Best Website and In-house Magazine of the Year

PPA Awards 2015 Best art team 2014 (Tablet edition), John Rooney, shortlisted

Vitali Vitaliev Columnist of the Year Business Media shortlisted

Amanda Williams, Leanne Farnell, Lorna Sharpe, Dominic Lenton

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