ESOcast Episode 35: Fifty New Exoplanets Found by HARPS		
00:00 [Visual starts] [Narrator] 1. Astronomers using ESO's leading exoplanet hunter HARPS have today announced more than fifty newly discovered planets around other stars. Among these are many rocky planets not much heavier than the Earth. One of them in particular orbits within the habitable zone around its star.		New exoplanet animation...
00:24 **ESOcast intro** This is the ESOcast! Cutting-edge science and life behind the scenes of ESO, the European Southern Observatory.		
00:44 [Narrator] 2. In this episode of the ESOcast, we take a close look at another major exoplanet discovery from ESO's La Silla Observatory, made thanks to its world-beating planet hunting machine HARPS.		La Silla observatory Footage HARPS
01:02 [Narrator] 3. Among the new planets just announced by scientists, sixteen are super-Earths — rocky planets up to ten times as massive as Earth. This is the largest number of such planets ever announced at one time. A planet in orbit causes its star to regularly move backwards and forwards as seen from Earth. This creates a tiny shift of the star's spectrum that can be measured with an extremely sensitive spectrograph such as HARPS.		Footage NTT Footage HARPS Doppler video
01:35 [Narrator] In their quest to find a rocky planet that could harbour life, astronomers are now pushing HARPS even further. They have selected ten well-studied nearby stars similar to our Sun. Earlier observations showed that these were ideal stars to examine for even less massive planets.		Zoom (D)

01:37 [Narrator] After two years of work, the team has found five light super-Earths around three of the stars. These planets are very good candidates for future observations looking for evidence of life. One of the newly found planets, named HD 85512 b, orbits inside the habitable zone. This is the narrow area around a star where water can exist in liquid form. Astronomers estimate that liquid water could possibly be present on this planet if it is a rocky world that has more than 50% cloud cover.		Exoplanet animation - Animation of exoplanets, planetary system Exoplanet animation - HD 85512 b
02:38 [Narrator] By looking carefully at the results from the first 8 years of HARPS observations, the team has found that around 40% of stars similar to the Sun harbour at least one planet lighter than Saturn. These new results lead astronomers to believe that they could soon find more super-Earths in the habitable zones of their stars with HARPS. These planets will be great targets for powerful future telescopes to try to study their atmospheres looking for evidence of life. Thanks to HARPS, the search for another Earth elsewhere in the galaxy is picking up pace!		La Silla at night Exoplanet animation- habitable zone
03:25 [Outro]		ESOcast is produced by ESO, the European Southern Observatory. *ESO, the European Southern Observatory, is the pre-eminent intergovernmental science and technology organisation in astronomy designing, constructing and operating the world's most advanced ground-based telescopes.*

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