

FOCUS: Technologies to Watch. Bio-printing

Organs out of Printer

In Germany more or less 10000 severely diseased patients wait for organ transplantation but often in vain. Standard isolated organs out of printer were blessings. However still the technology is in a very early stage. At the Fraunhofer-Institut für Grenzflachen and Bioverfahrenstechnik(IGB) (Fraunhof Institute for Contact Surface and Bio method Technique) in Stuttgart the researchers puzzle over the bio-ink.

The cracking point: the cells must survive the bio-printing process. In addition to that they require a platform for growing up. Otherwise the printing result would quickly dissolve organ.

Mobile Phone

After 5G comes 6G: At present the mobile phone managers build at their net the fifth generation. The year 2020 becomes the year of in the 5G in big style also (in this land) in Germany should be commercialised. However this mobile phone standard is not yet ready with that. As with the earlier generations — always new developments up. which from the standardising come organisation 3GPP in regular releases are collated. That previously in about every 10 years a new mobile phone standard was established, already the 1st works have on the 6th mobile phone generation begun. A decisive building block in the further development of 5G and 6G. The use of always higher frequencies, 5G lies in the two doubly placed provided GHz area for 6G takes a bearing rather the exceeding of TH_z threshold. The higher the frequency, higher the transmitting band width but shorter the range. The experts expect the meaningful insertion of this higher frequencies therefore before call in densely inhabited urban area.

Ref.: Technologies to Watch, VDI nachrichten. 20 Dezember 2019. Nr. 51/52, Seite 22

Japan wants to fly material from Mars moon to the Earth

Since 19th February 2020 it is official: The Japanese Space Travel Agency JAXA has decided an extremely fastidious mission that the MMX-Sonde (Martian Moon exploration) should land on the martian moon and gather minimum 10gm material finally the mission will fly back again to the earth. The start is planned in the year 2024. JAXA wants to discover how the moon was

generated. It could be asteroid, caught up through gravitation. Alternatively it could be formed due to collision of fragments moving round the mars.

> Anil Kumar Ghosh Source: VDI nachrichten. Diese woche 28. Februar 2020. Nr. 9