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You have the floor, Chris Anderson

Chris Anderson, with unveiled enthusiasm, tells Interactions about a new revolution he has described in his latest book 'Makers', published by Pearson [www.pearson.com/]. Former Head Editor of Wired, Chris serves up some examples of how the Makers are already industrialising the DIY world, thanks mainly to new digital equipment.

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Tell us Chris, who are the makers?

A maker is anyone who belongs to the Web generation, who chooses to make a move from a virtual world to a real world situation. Such people have been using digital and network tools to actually 'make' things.

Given their familiarity with Open Source software, they know that by sharing a bit they can obtain much more. And in much the same way as Internet has changed the place of business companies in the communications sectors and information processing (ICTs), Makers are now modifying the place of conventional companies and industrial sectors. They continue to sell goods, but the latter are created by communities working together on a common idea, in an open and totally transparent process approach.

Internet has itself led to even more competition and innovations in the ICT world and has generated what Anglo-Saxons call "the long tail" [ed. another of C Anderson's books, where he explains how Internet enables sales of many, many objects, but in small quantities each time, in other words selling less of more "].

Products for sale with small volumes can, when aggregated, represent a market-place share at least equal or even higher than for best-selling items. The Makers phenomenon is opening up a truly revolutionary prospect with an associate explosion of creativity in goods manufacturing and production...

How can conventional companies adapt to this ongoing revolution?

Good question. Very easily! They can take part in creation of communities round an idea, a product concept and integrate their own contributions into the design and innovation process. The members of a community, for example, can design a new telephone set.

The Maker model opens up the 'creative' role to everyone interested and it is the community that decides on the future of a given contribution based on the positive support it gets. Large scale

companies can also encourage and enhance a creative eco-system round their core activities, integrating the SMEs into their community.

Together they act in a complementary manner, through the large companies' specific knowledge of the market place and the possibilities and the ways in which they can help the SMEs to expand their market positions and networks. Transparency and open-mindedness are key to the game and essential to federation of ideas, energy and the contributions generated within the community.

In economic terms what does the Makers' movement represent?

Hundreds of companies are now using this model and some have a turnover that reaches millions of dollars. The company I created, 3D Robotics is a case in point. We started from literally nothing and now we are assembling civilian use drones in two factories in Mexico.

We employ 64 persons and have a cash flow of 99 million dollars; we also watch over a DIY drone community with some 36 000 members! Most Makers companies simply could not have developed ten years ago, if only because the tools needed for their development did not exist or were not as yet democratised: open source software, user communities, the possibility to purchase components, parts and raw materials in small quantities anywhere in the world, development of e-trade, logistics solutions and more recently the advent of 3D printers which make prototyping and small scale production possible.

All of this is conducive, as I explain, not only to seeing entrance barriers come down, but also it facilitates production and even enterprise creation.

Do you feel this announces a new era for globalisation?

Indeed, yes. The last few decades have seen manufacturing delocalisation, guided mainly by the cost of labour. Today, these costs are smoothed out, so to speak, and it is the arrival and deployment of robots on the assembly lines that is accelerating the movement.

The key factor now in the policy decisions as to where to locate an assembly plant is time. The rule is that we must always work faster and faster, be more and more flexible, and this itself leads in creation of companies even in traditionally high cost countries, but also located close to creation and consumption intensive areas. Take the case of 3D Robotics: the design office is only 10 metres or so from the assembly line!

What role will qualified engineers have in this movement?

The movement depends far more on engineering than on highly qualified Engineers (note the capital "E"). Thanks to progress in e-learning, there is an increasing easy access to design and manufacturing tools and you do not need to possess an engineering diploma to do engineering. In the Makers' companies, the ratio of qualified engineers is definitely far lower than in conventional companies. You no longer need a diploma to begin: all you need is some talent, some ideas and a driving force to succeed, viz., a passion for the job.

Did you know this?

In a global network of local laboratories, the fab labs encourage inventions, enabling private individuals to have access to digital manufacturing tools

[Cf. the list of the MIT network fab labs](#)

[The French Fab Labs](#)