



Emilia Romagna

# Perché si parla di rivoluzione?

## Massimo Menichinelli



# Una rivoluzione tecnologica



# Fabbricazione Digitale: tra bit e atomi

Fonte: <http://www.flickr.com/photos/aaltofablab/6877430052/in/photostream/>



# MOTOR CONTROLLED APPARATUS FOR POSITIONING MACHINE TOOL

Frank L. Stulen et al



- Overview
- Abstract
- > Drawings
- Description
- Claims

+1 0

Search in this patent

Go

Patent number: 2820187

Filing date: May 5, 1952

Issue date: Jan 14, 1958

Jan. 14, 1958

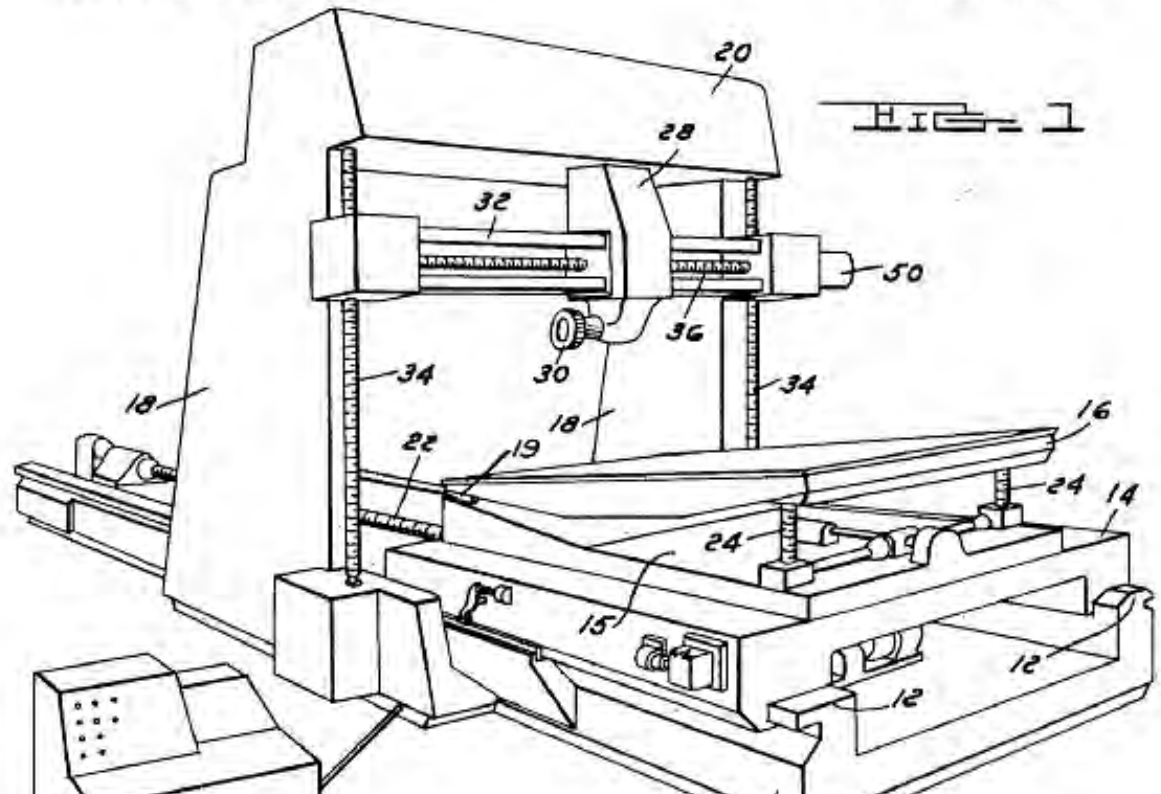
J. T. PARSONS ET AL

2,820,187

MOTOR CONTROLLED APPARATUS FOR POSITIONING MACHINE TOOL

Filed May 5, 1952

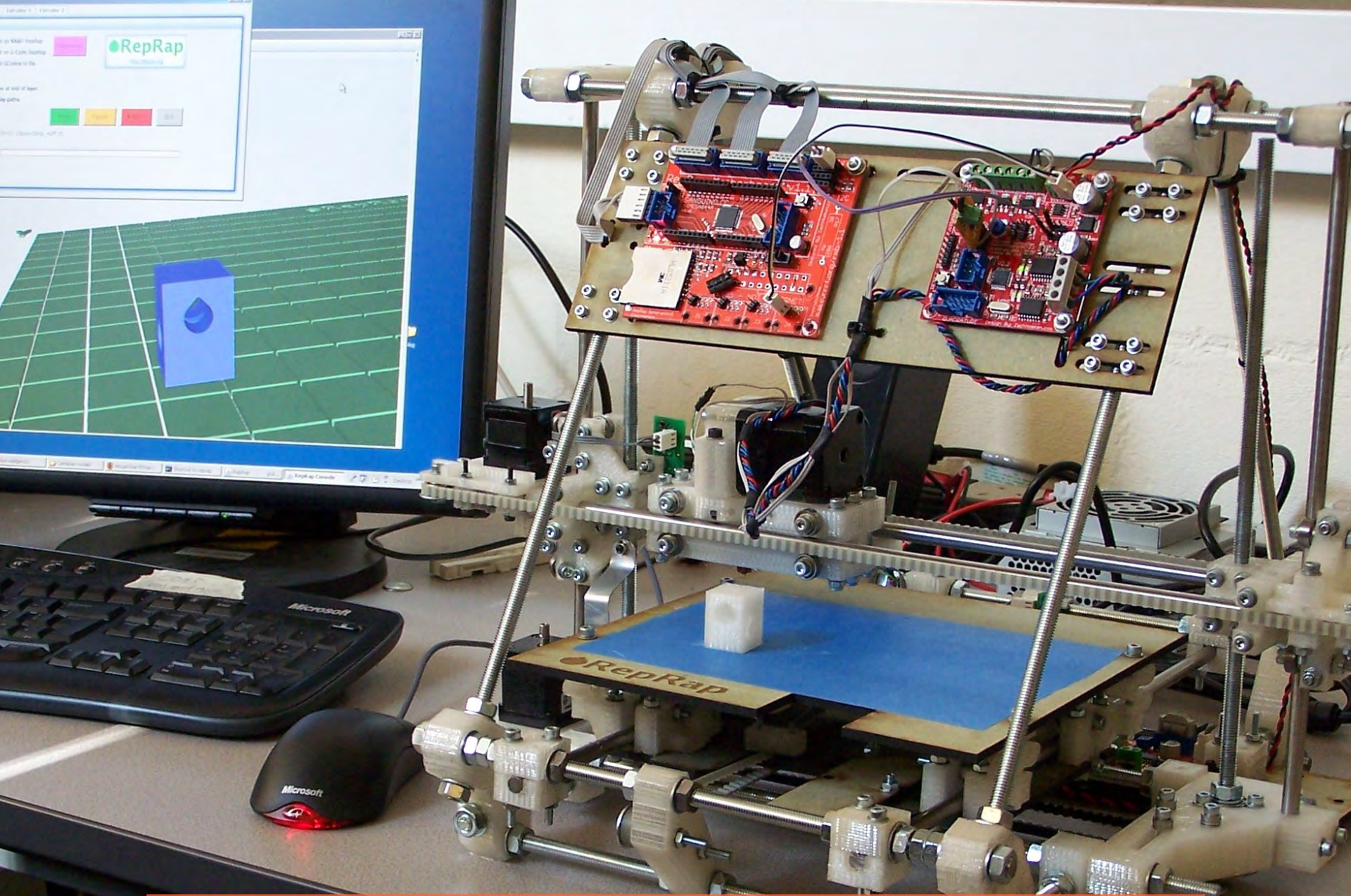
7 Sheets-Sheet 1



# 01. Computer collegati a macchina

Fonte: <http://www.google.com/patents?id=rRqqAAAAEBAJ&printsec=drawing&zoom=4#v=onepage&q&f=false>

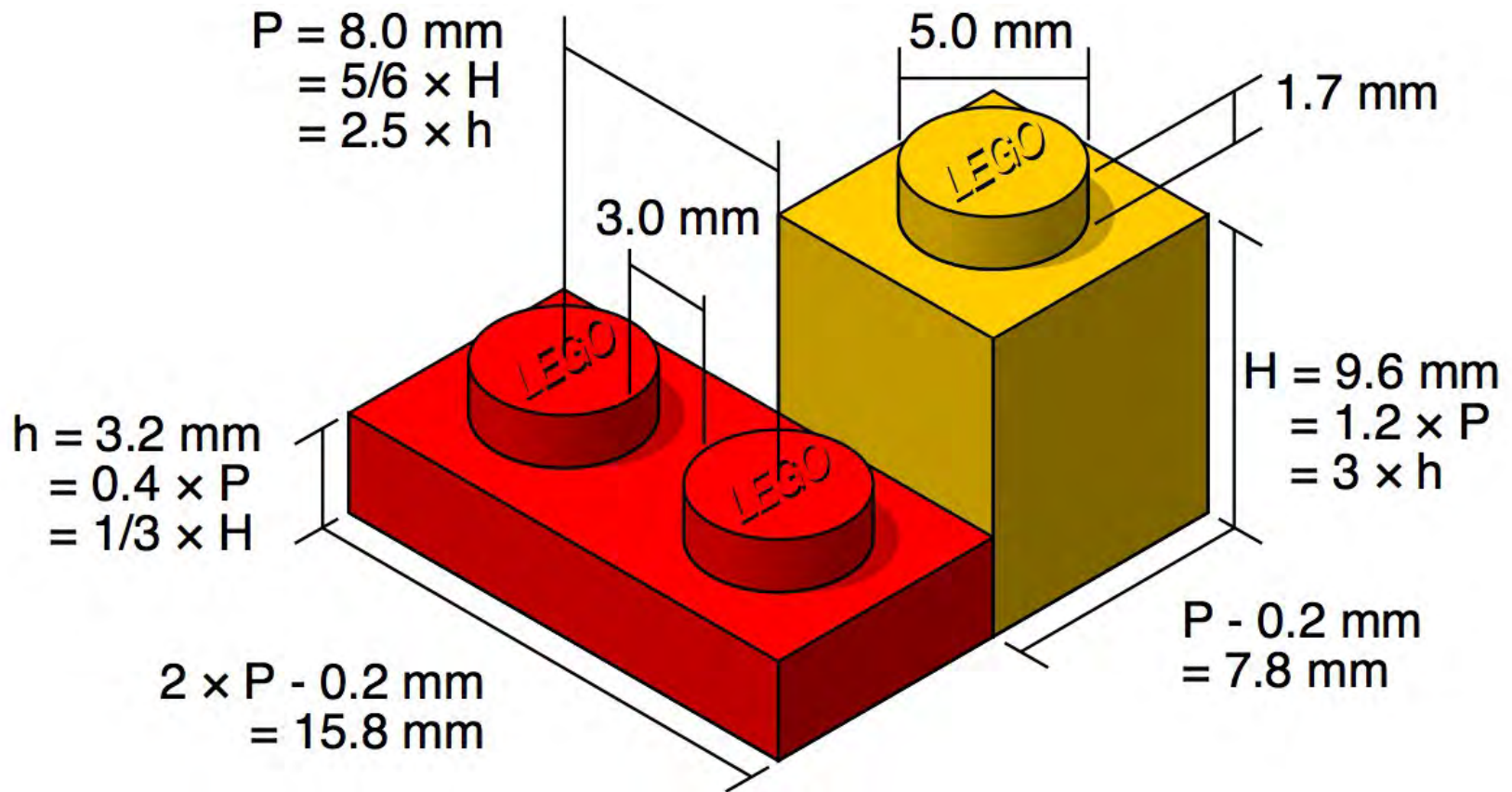




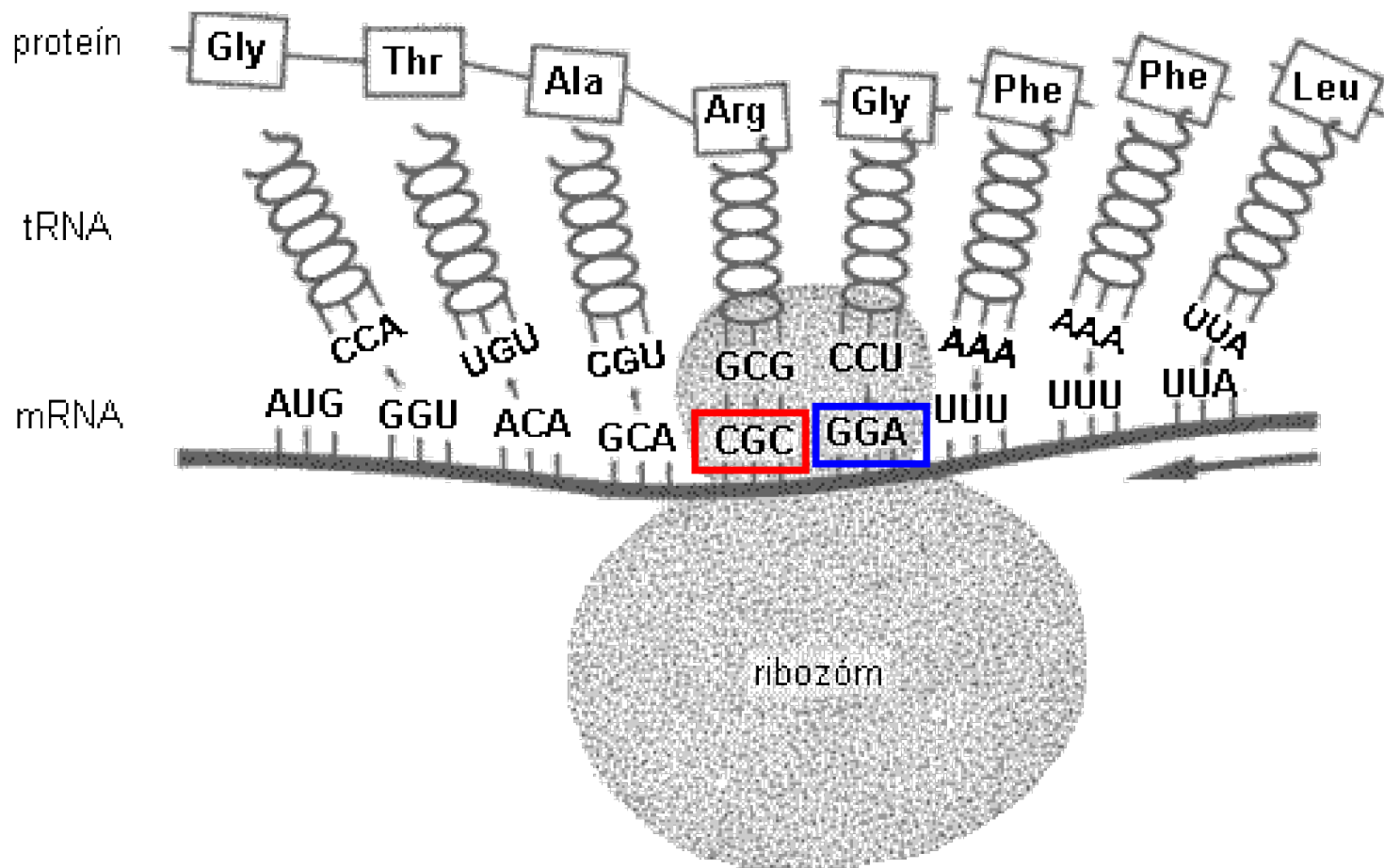
## 02. Machine che creano macchine

Fonte: <http://www.reprap.org/>





## 03. Materiali con codice incorporato



## 04. Materiali con programma incorporato

Fonte: <http://it.wikipedia.org/wiki/Ribosoma>

# Training Bacteria To Grow Consumer Goods

By Christopher Mims

Thinkers at IDEO are working with scientists to find a way to have *E. coli* bacteria form objects—like a coffee cup—when exposed to light. It's nature's version of 3-D printing.



**Anche IDEO ci sta pensando!**

Fonte: <http://www.fastcompany.com/biomimicry/training-bacteria-to-grow-consumer-goods>





Taglio laser



Fresa CNC  
(da tavolo)



Plotter taglio  
vinile



Scanner 3D



Stampa  
3D



Macchina  
cucito e  
ricamo digitale



Fresa CNC  
(grande)



Arduino

**Ma nel 2012 ci sono:**





# Fab Lab Amsterdam (Olanda)

Fonte: <http://www.flickr.com/photos/37873897@No6/4973326149/>





## Mini Fab Lab (Utrecht, Olanda)

Fonte: [http://web.me.com/bartbakker/saguaro/Mini\\_FabLab.html](http://web.me.com/bartbakker/saguaro/Mini_FabLab.html)





# Una rivoluzione sociale



# Spazi e strumenti la comunità locale

Fonte: <http://fabfi.fabfolk.com/>

phoben.com

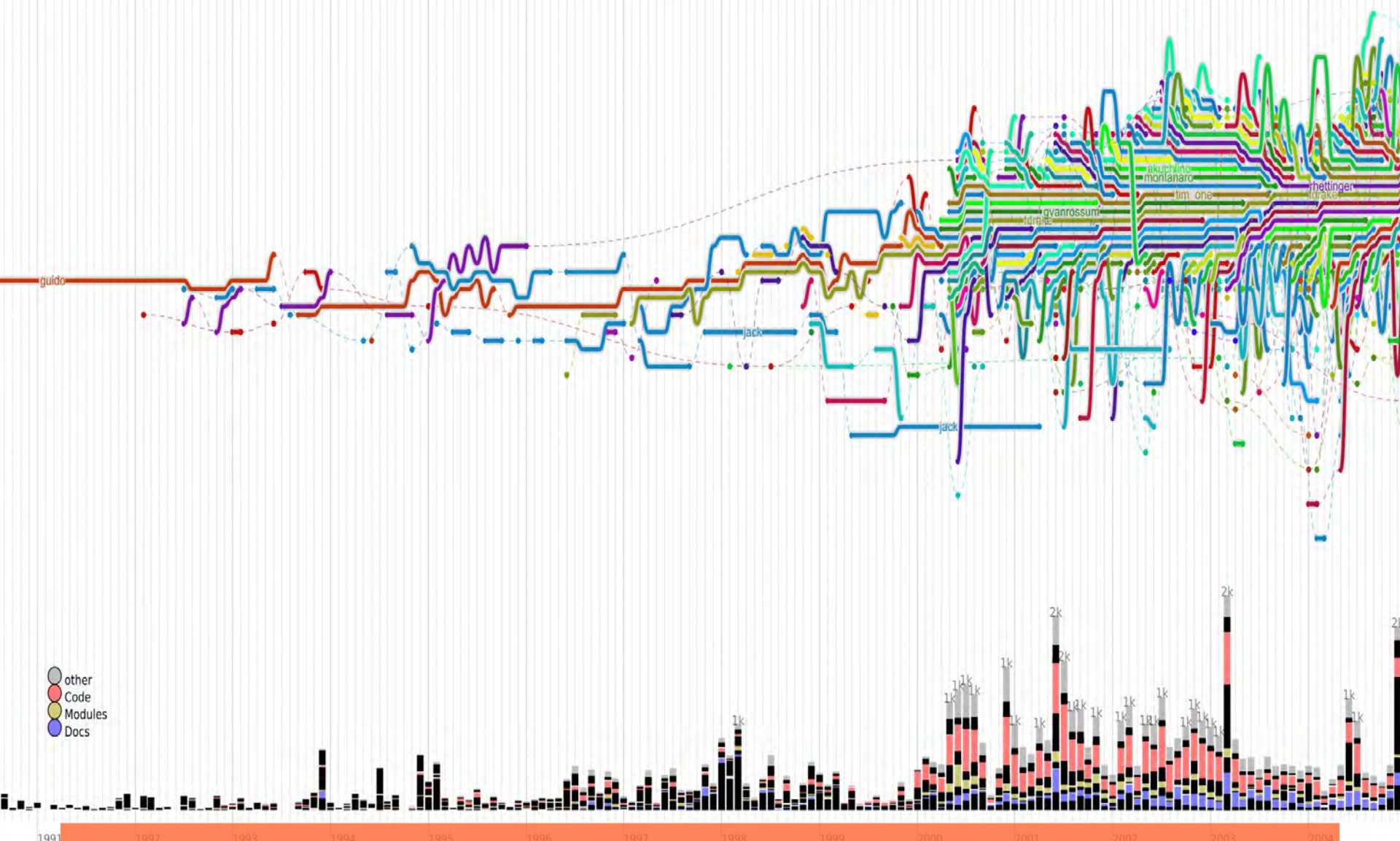




# Condivisione e reti: progetti di Open Design

Fonte: <http://fabfi.fabfolk.com/>





# Open: un sistema sociale e produttivo in rete

Fonte: <http://www.michaelogawa.com/research/storylines/>



**Open: può essere un business importante**

Fonte: [http://www.flickr.com/photos/bug\\_labs/2048688724/in/photostream](http://www.flickr.com/photos/bug_labs/2048688724/in/photostream)



bug labs



## Ford + Bug Labs Press Release

login  
sign up



Bug System  
Store  
Support

Businesses  
Education  
Developers

Google™ Custom Sea go

Feed



Ford and Bug Labs explore open innovation and crowd sourced, community-driven development



## Ford and Bug Labs Develop Open-Source R&D Platform for Socially-Networked In-Car Connectivity Innovation

- **Ford** and **Bug Labs**, an open-source hardware and software provider, announce a joint development project to research, develop and distribute open-source developer tools to advance in-car connectivity innovation
- Known as "OpenXC," the research platform is based on Bug Labs' open-source Bug System and will enable the developer community to quickly prototype ideas and test out affordable new connectivity concepts that could enhance Ford's future products

# Open: puó interagire con le imprese esistenti



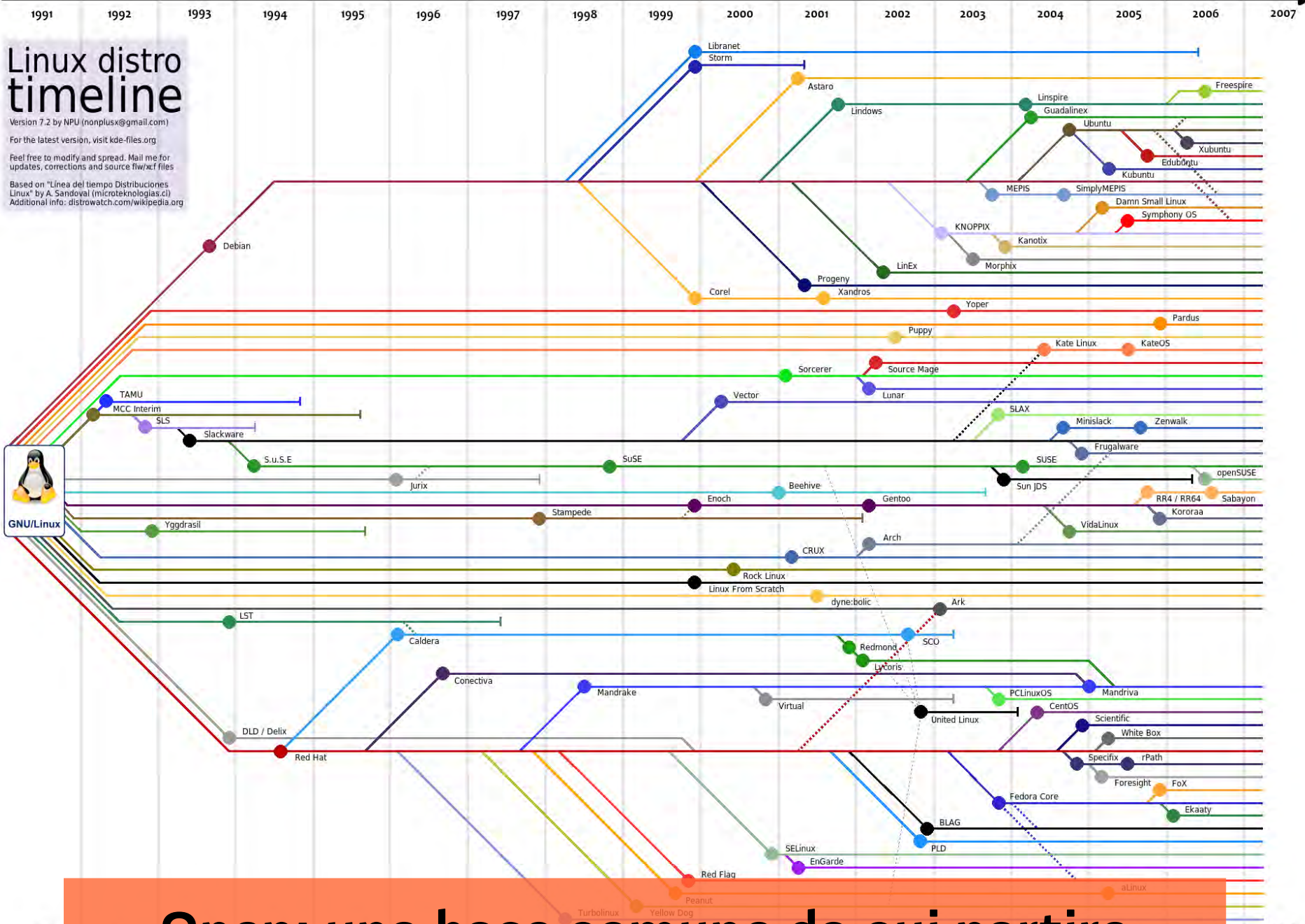
# Linux distro timeline

Version 7.2 by NPU (nonplusx@gmail.com)

For the latest version, visit [kde-files.org](http://kde-files.org)

Feel free to modify and spread. Mail me for updates, corrections and source files

Based on "Linea del tiempo Distribuciones Linux" by A. Sandoval (microtecnologias.cl)  
Additional info: [distrowatch.com/wikipedia.org](http://distrowatch.com/wikipedia.org)



Open: una base comune da cui partire

Fonte: <http://futurist.se/gldt/>

*“We find this previously unmeasured type of household sector innovation to be quite large: 6.2% of UK consumers - 2.9 million individuals - have engaged in consumer product innovation during the prior 3 years. In aggregate, consumers’ annual product development expenditures are 2.3 times larger than the annual consumer product R&D expenditures of all firms in the UK combined.”*

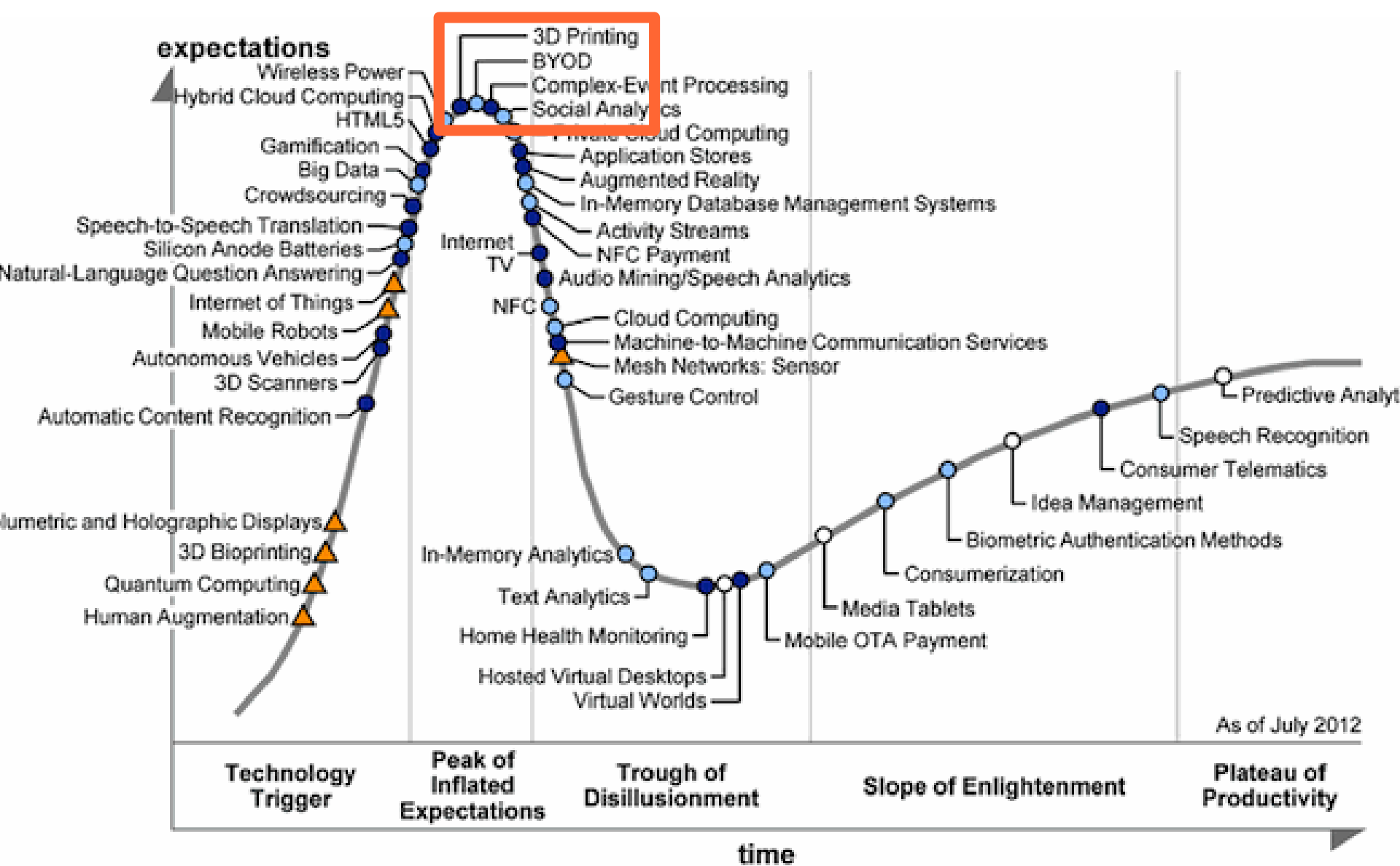
Eric A. Von Hippel, Jeroen De Jong, Steven Flowers

**Comparing Business and Household Sector Innovation in Consumer Products: Findings from a Representative Study in the UK**

[http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1683503](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1683503)

**C'è già un sistema distribuito che progetta**

Fonte: [http://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=1683503](http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1683503)



Plateau will be reached in:

- less than 2 years
- ◐ 2 to 5 years
- 5 to 10 years
- ▲ more than 10 years
- ⊙ obsolete before plateau

**C'è ancora tempo per agire**





**Grazie!!**

**Massimo Menichinelli**

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