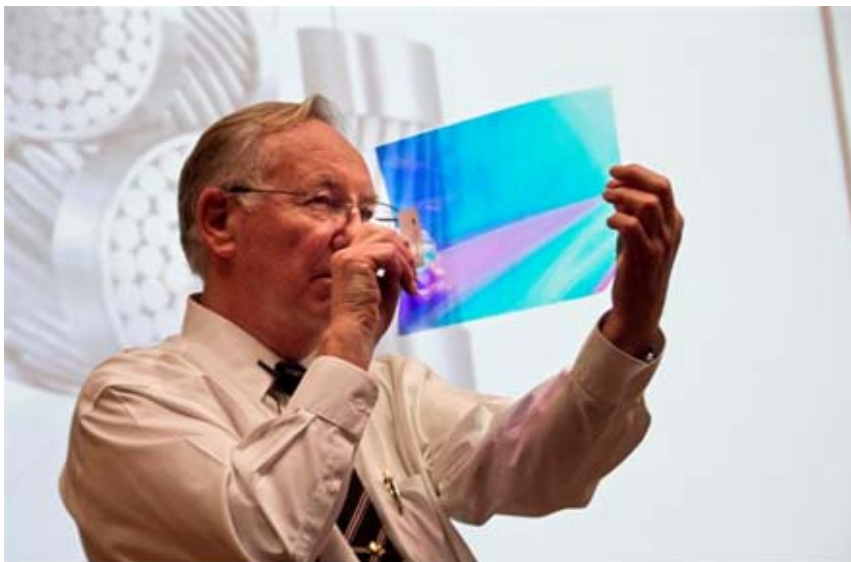


“Quale Modello di Ricerca per una Concreta Innovazione”



Geoffrey C. Nicholson, Geoff, served as Vice President of Corporate Technical Planning and International Technical Operations of 3M Corporation. He served at 3M Corporation from 1963 to 2001. During his career at 3M, he was instrumental in the development of its "Post-it" Notes as well as oversaw 2500 3M employees internationally.

**Imperial College
London**

Department of Chemistry Centenary Lecture on Innovation,
22 February 2007
Innovation: A Survival Issue
Dr Geoff Nicholson

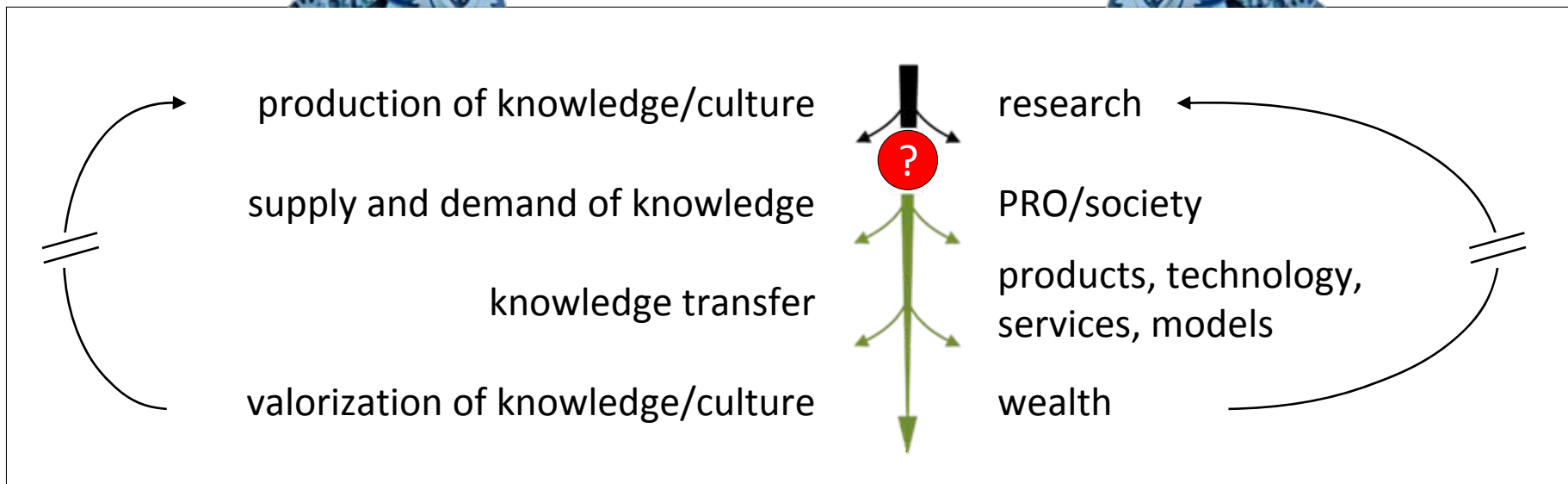
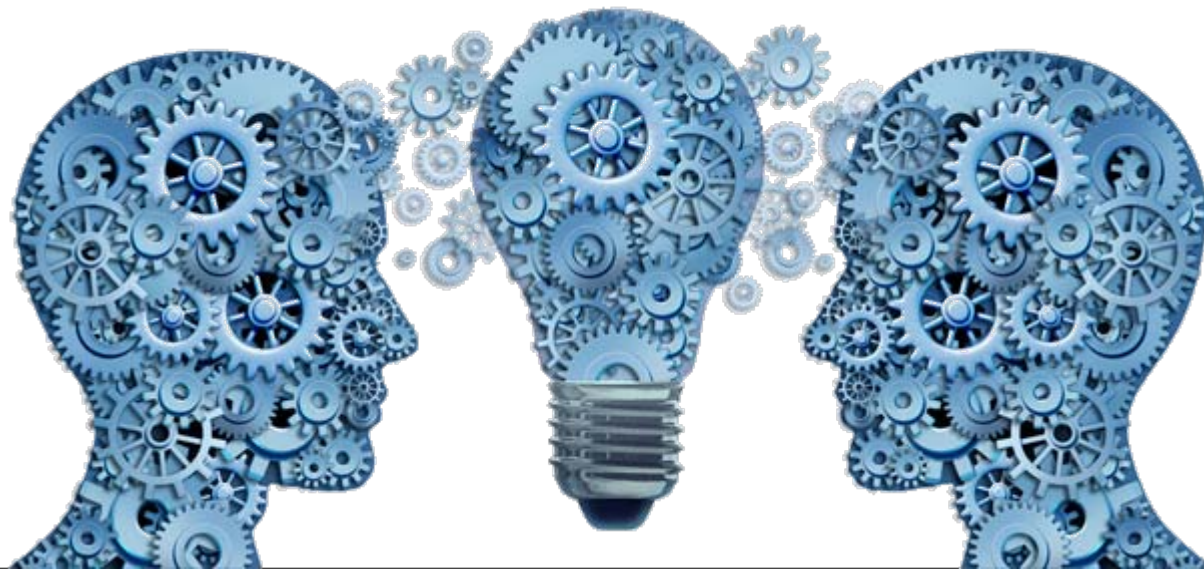
“...research is the transformation of money into knowledge
and
innovation is the transformation of knowledge into money...”

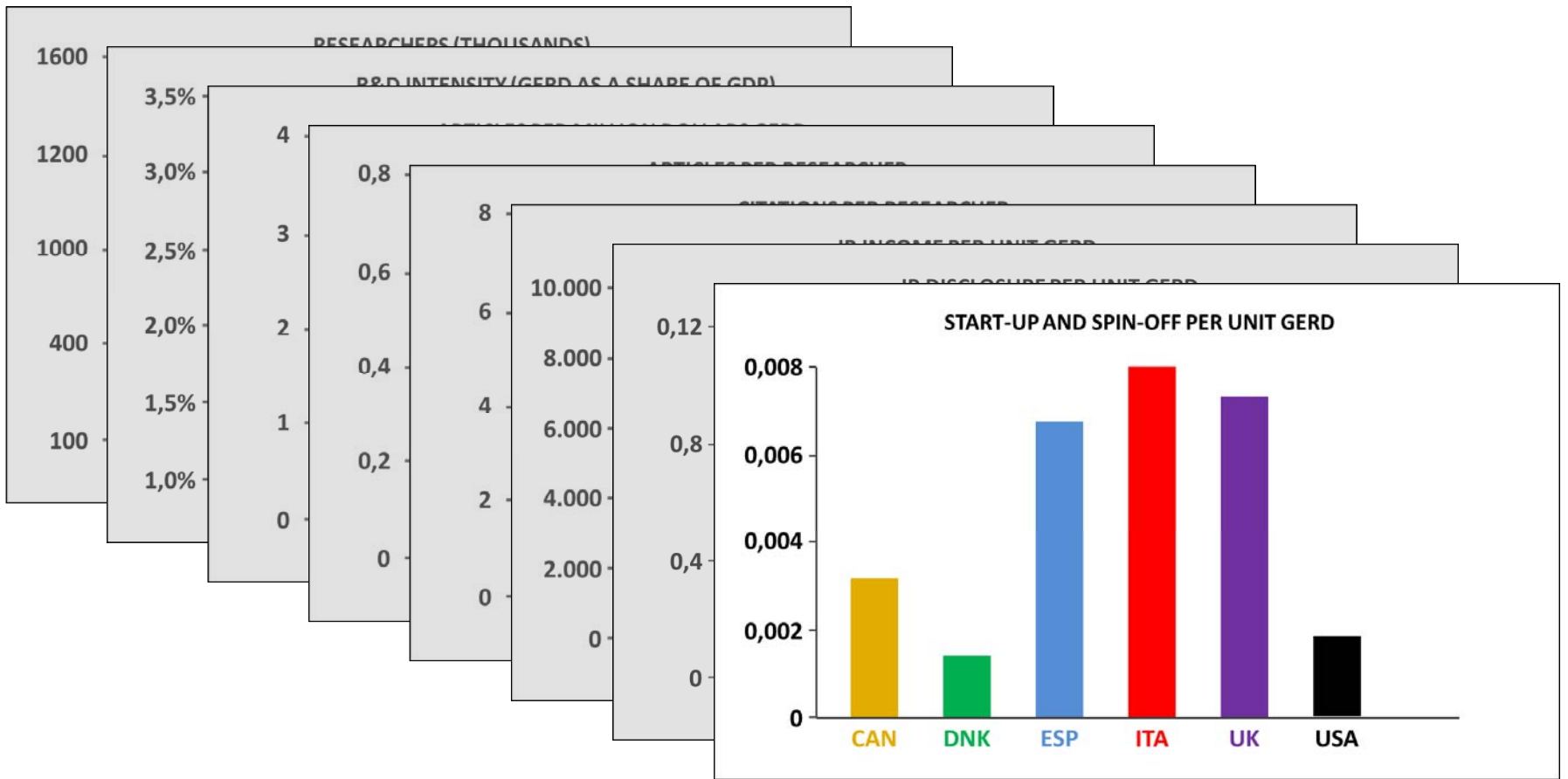
“...research is the transformation of money into knowledge
and
innovation is the transformation of knowledge into money...”



1. la ricerca produce conoscenza e
2. l'innovazione consuma conoscenza

1. la ricerca consuma denaro e
2. l'innovazione produce denaro





From: International Comparative Performance of UK Research Base – 2013.
 A report prepared by Elsevier for the UK's Dept. of Business, Innovation and Skills (BIS)
 GERD is the Gross Domestic Expenditure in R&D



$$\begin{array}{cccccccccccccccc}
 1 & + & 2 & + & 3 & + & 4 & + & 5 & + & \dots & + & \dots & + & \dots & + & 97 & + & 98 & + & 99 & + & 100 & = & 5050 \\
 + & & + & & + & & + & & + & & + & & + & & + & & + & & + & & + & & + & & + \\
 100 & & 99 & & 98 & & 97 & & 96 & & \dots & & \dots & & \dots & & 4 & & 3 & & 2 & & 1 & &
 \end{array}$$

$$101 + 101 + 101 + 101 + 101 + \dots + \dots + \dots + 101 + 101 + 101 + 101 = 100 \times 101 / 2 = 5050$$

$$\sum_{n=a}^b n = (a+b) \times (b-a+1) / 2$$

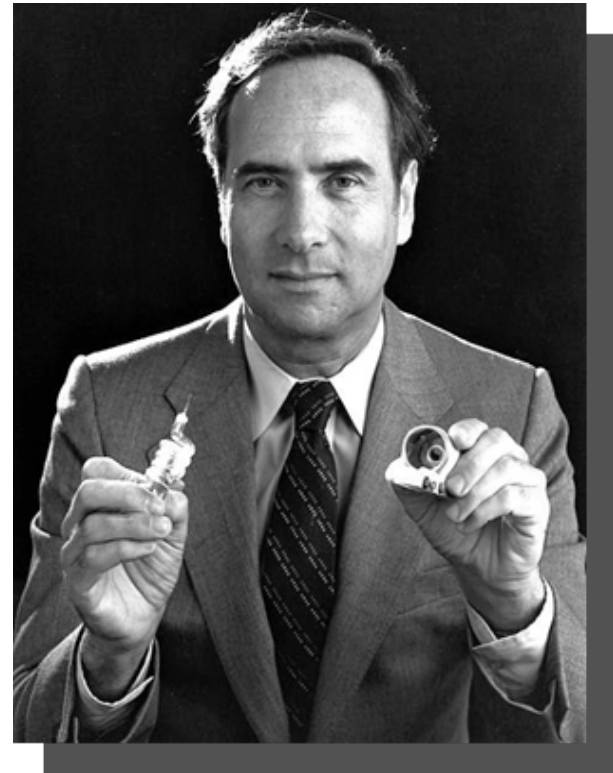


applicazioni varie

l'innovazione la fanno le persone...



1995 - Mario Moretti Polegato
GEOX - Le scarpe che respirano



1960 - Theodore Harold Maiman
Il primo LASER a rubino

GEOX
RESPIRA



MBT
physiological footwear



US06341432B1

(10) Patent No.: **US 6,341,432 B1**
(45) Date of Patent: **Jan. 29, 2002**

5,701,686 A * 12/1997 Her et al. 36/27

FOREIGN PATENT DOCUMENTS

DE	9413406	*	8/1994
GB	2150010	*	6/1985
GB	2200030	*	7/1988
GB	2288720	*	1/1995
WO	8703789	*	7/1987

from this
I under 35

* cited by examiner

Primary Examiner—Paul T. Sewell
Assistant Examiner—J. Mohandeski
(74) Attorney, Agent, or Firm—Antonelli, Terry, Stout & Kraus, LLP

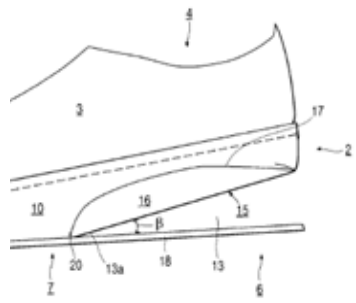
ABSTRACT

(57) **ABSTRACT**
A shoe includes a sole (2) that extends from a rear heel area (6) through a metatarsal area (7) to a front ball or toe area (8), the sole being composed of a sole body (10) and a sole covering (11) formed on the underside of the sole body (10) and a recess (13) extending approximately from metatarsal area (7) to heel area (6). The recess is provided between sole body (10) and sole covering (11), with the area of sole covering (11) associated with recess (13) forming a pivoting element (18) designed to pivot around a pivot axis (20) located in the end area of recess (13) facing metatarsal area (7). The end area of recess (13) facing metatarsal area (7) is defined by a tip (13a) of recess (13), and the pivot axis (20) is located in the area between a lengthwise center of shoe (1) and heel area (6), with heel area (6) extending over approximately one-third of the length of shoe (1). At least one material element (25) is located in recess (13), the material element (25) being made of a flexible, soft material and being made approximately wedge-shaped or approximately in the shape of a circular section.

17, 12, 596, U
17, 20, 627, U
438, 13, 28
102, 36, 28;
36, 103
27, 28, 31,
88, 29, 3, B

— 36/27
— 36/29
— 36/27

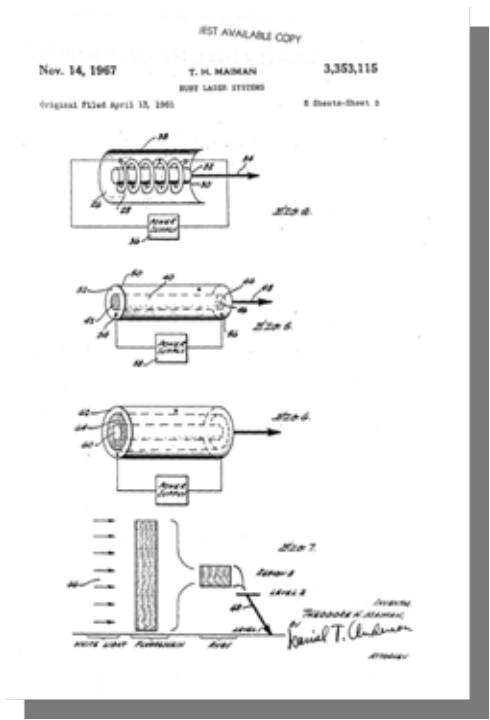
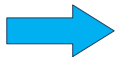
31 Claims, 6 Drawing Sheets



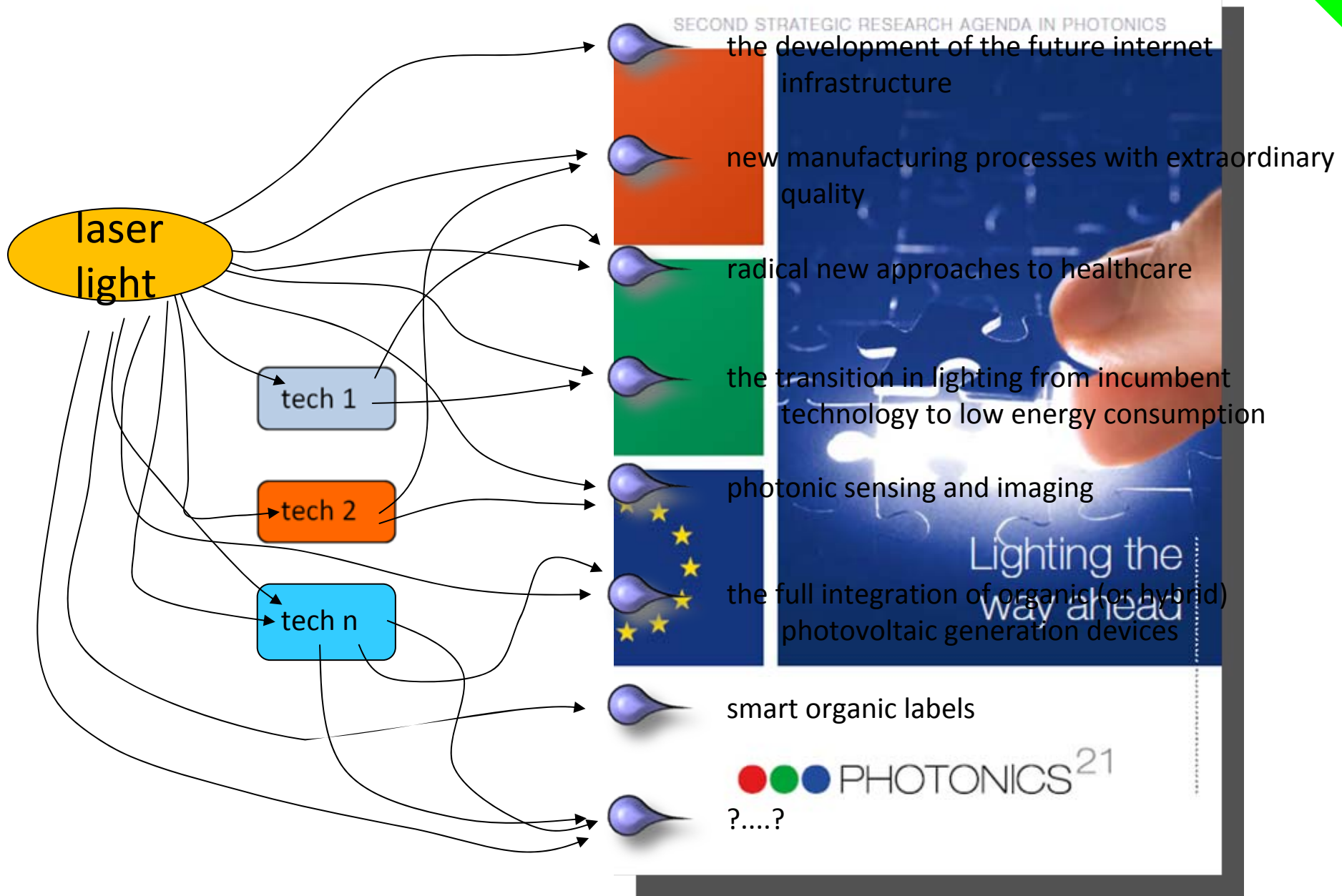


1900 – Max Planck introduce la teoria dei quanti (la versione discontinua dell'energia $E = h\nu$).

Un L.A.S.E.R. (Light Amplification by Stimulated Emission of Radiation) è un dispositivo che emette luce attraverso un processo di amplificazione ottica basata sulla emissione stimolata di radiazione elettromagnetica.



periodo	depositi con «laser»
0-50	1
50-60	5
60-70	2894
70-80	13910
80-90	78955
90-00	123817
00-10	169759
10-	61390



pubblico

privato



ricerca scientifica

ricerca finalizzata

sviluppo industriale



ricerca

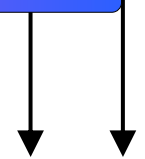
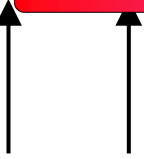
mercato

ingresso dell'industria
ingresso dell'industria

uscita della ricerca
uscita della ricerca

impatto sulla società
e sul benessere

conoscenza e alta formazione



pubblico



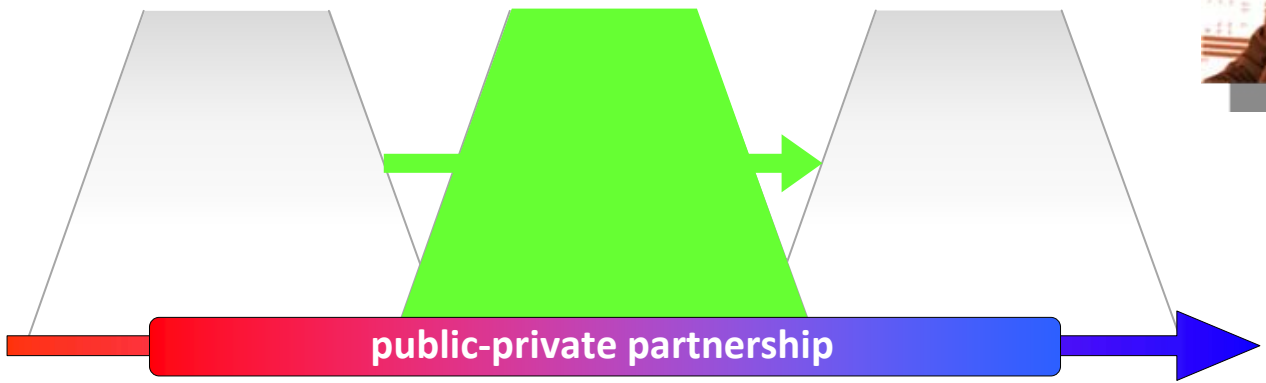
privato



ricerca

sviluppo

innovazione

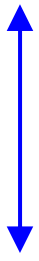


ricerca

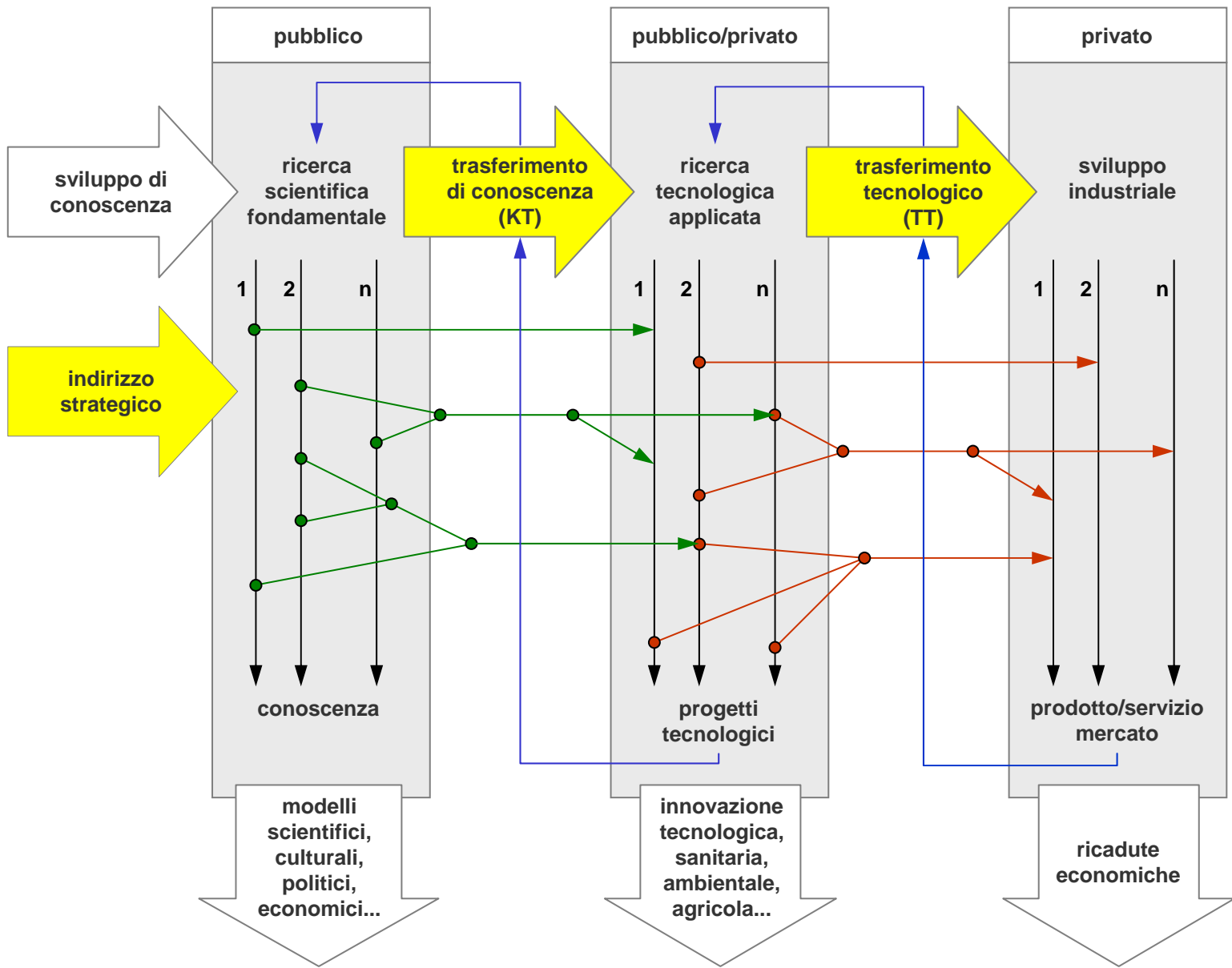


conoscenza
e
alta formazione

mercato



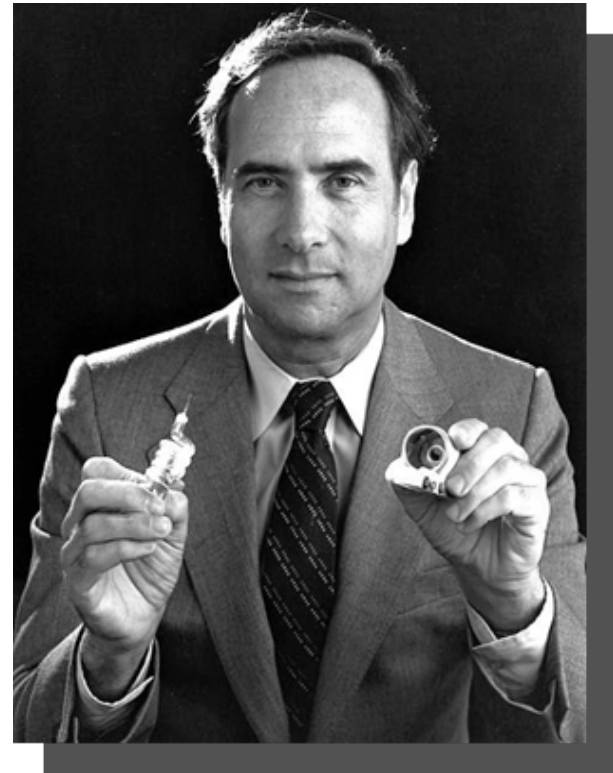
impatto
sulla società
e
sul benessere



l'innovazione la fanno le persone...
...in un Ecosistema dell'innovazione



1995 - Mario Moretti Polegato
GEOX - Le scarpe che respirano



1960 - Theodore Harold Maiman
Il primo LASER a rubino