

Olivetti Early Computers

(at least) two cases
of brand making

Conservatoire National des Arts et Métiers
Paris, 25 June 2013

G.A. Cignoni, F. Gadducci

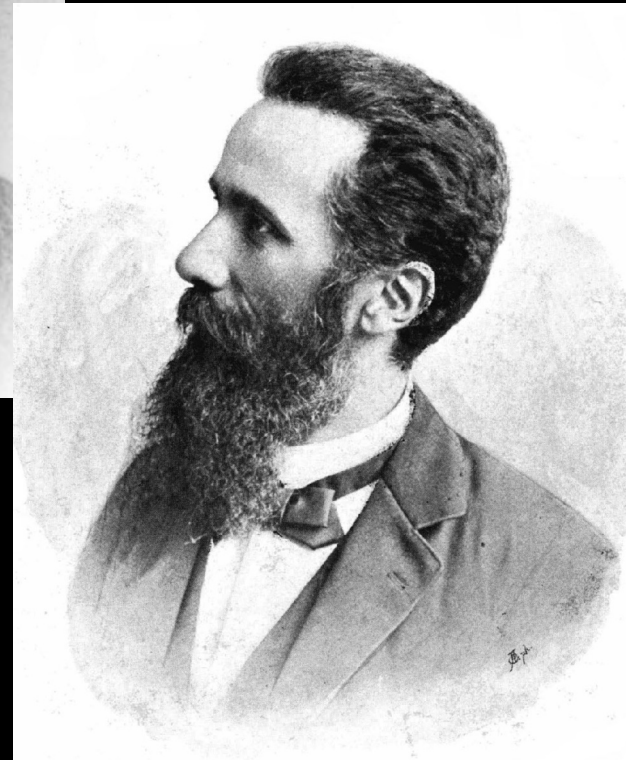
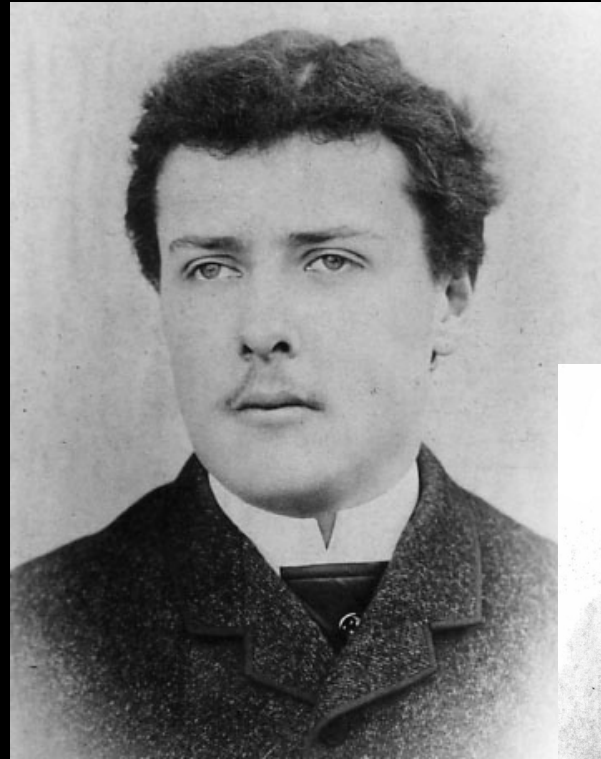


The founder, and its mentor

Camillo Olivetti
(1868-1943) was an
electrical engineer

Pupil of renowned
Galileo Ferraris

Asst. Researcher
Stanford 1893/94



G.A. Cignoni, F. Gadducci



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The first Olivetti

First enterprise
Centimetro-Grammo
-Secondo (1896-1907)
electric measurement
equipments

Ing. C. Olivetti & C.
(1908) typewriters

Key element: a social
approach to the firm,
with faithful people
as Domenico Burzio

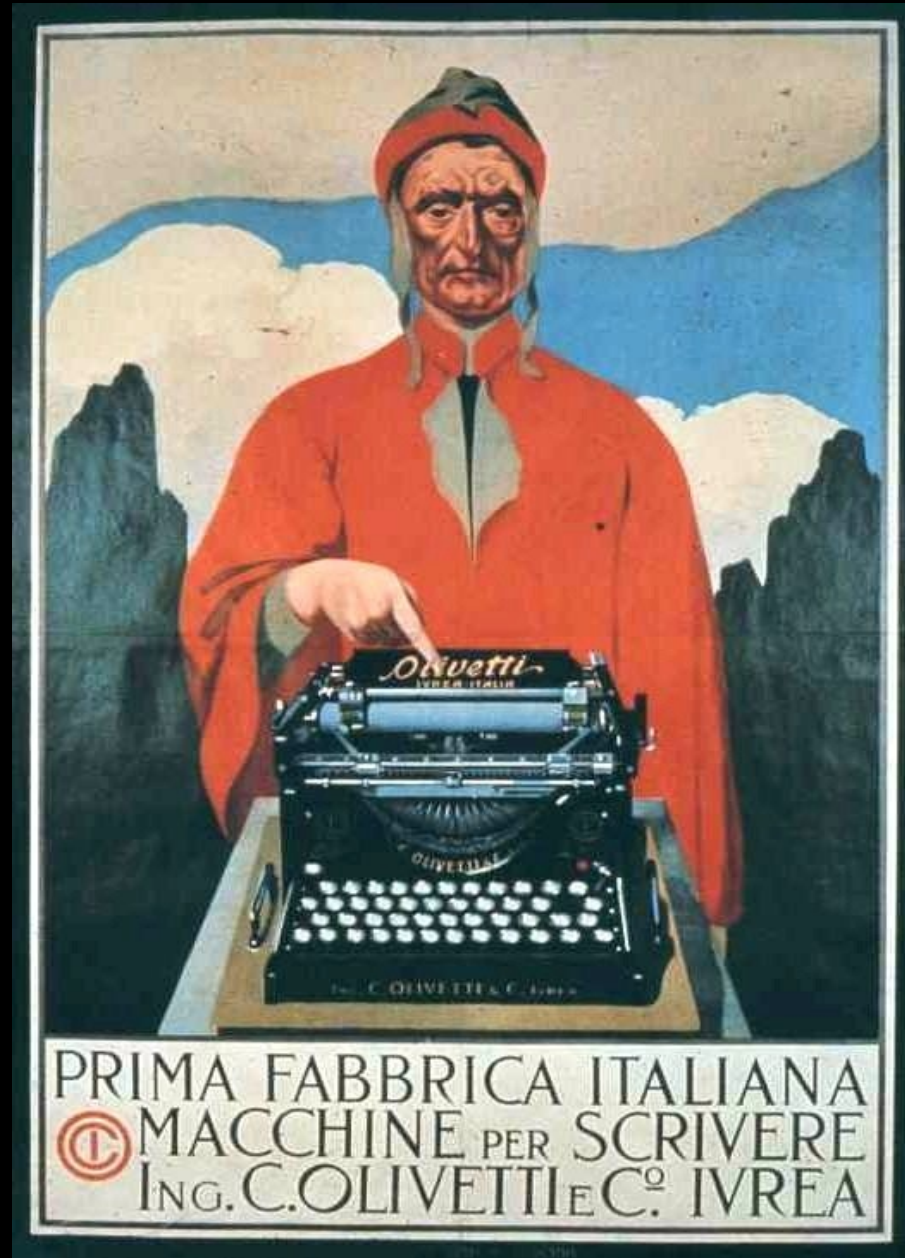


G.A. Cignoni, F. Gadducci

Mostly, typewriters

First model M1,
released for the
1911 anniversary

...but it's a varied
enterprise, devoted
e.g. to import/export
of mixed goods



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Some partners & branches

Barcelona
(1929)

Buenos Aires
(1932)



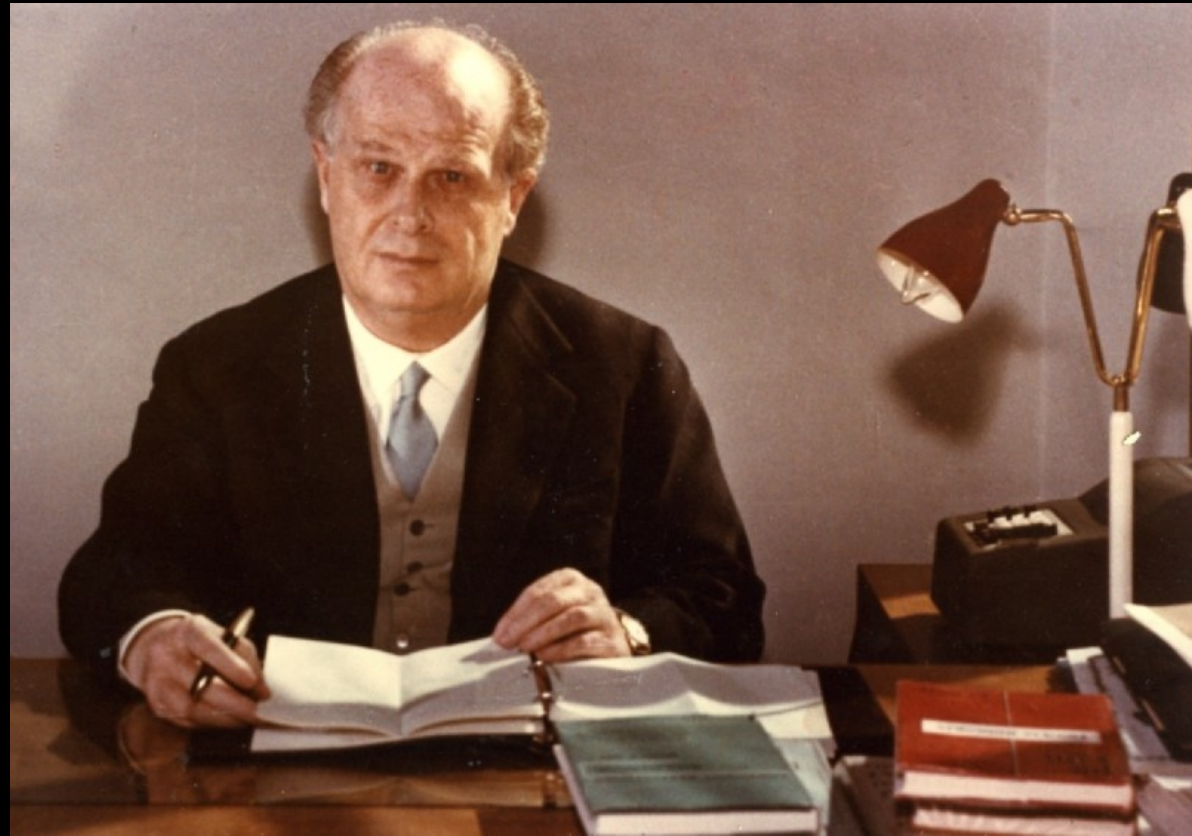
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Enters Adriano

Adriano Olivetti
(1901-1960) was a
chemical engineer

In charge of the
family firm (with
a large group of
relatives!!) since
1932, fully in 1938

Also a politician
(1948, Movimento
Comunità), along
utopic socialism



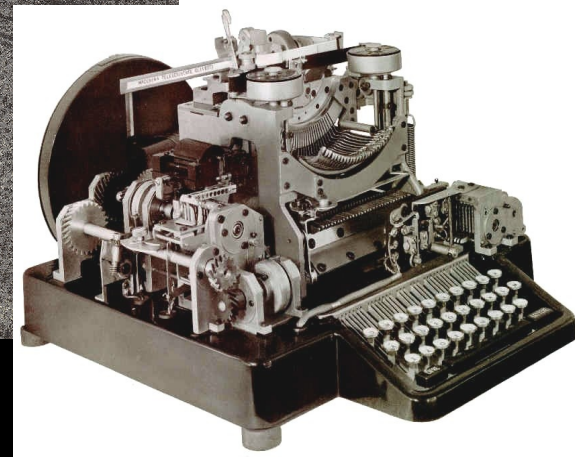
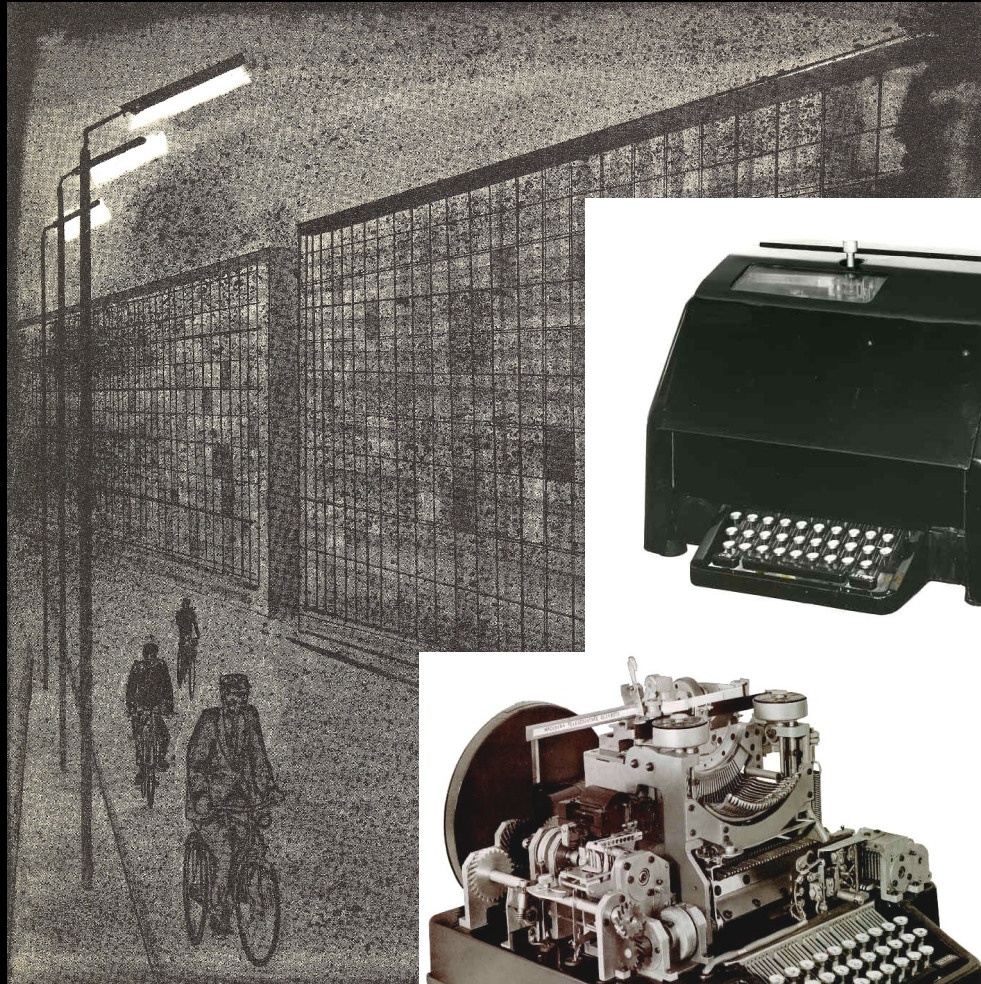
G.A. Cignoni, F. Gadducci

The second Olivetti

Portable typewriter
(MP1, 1932)

New industrial plants
(Figini&Pollini, 1934-36)

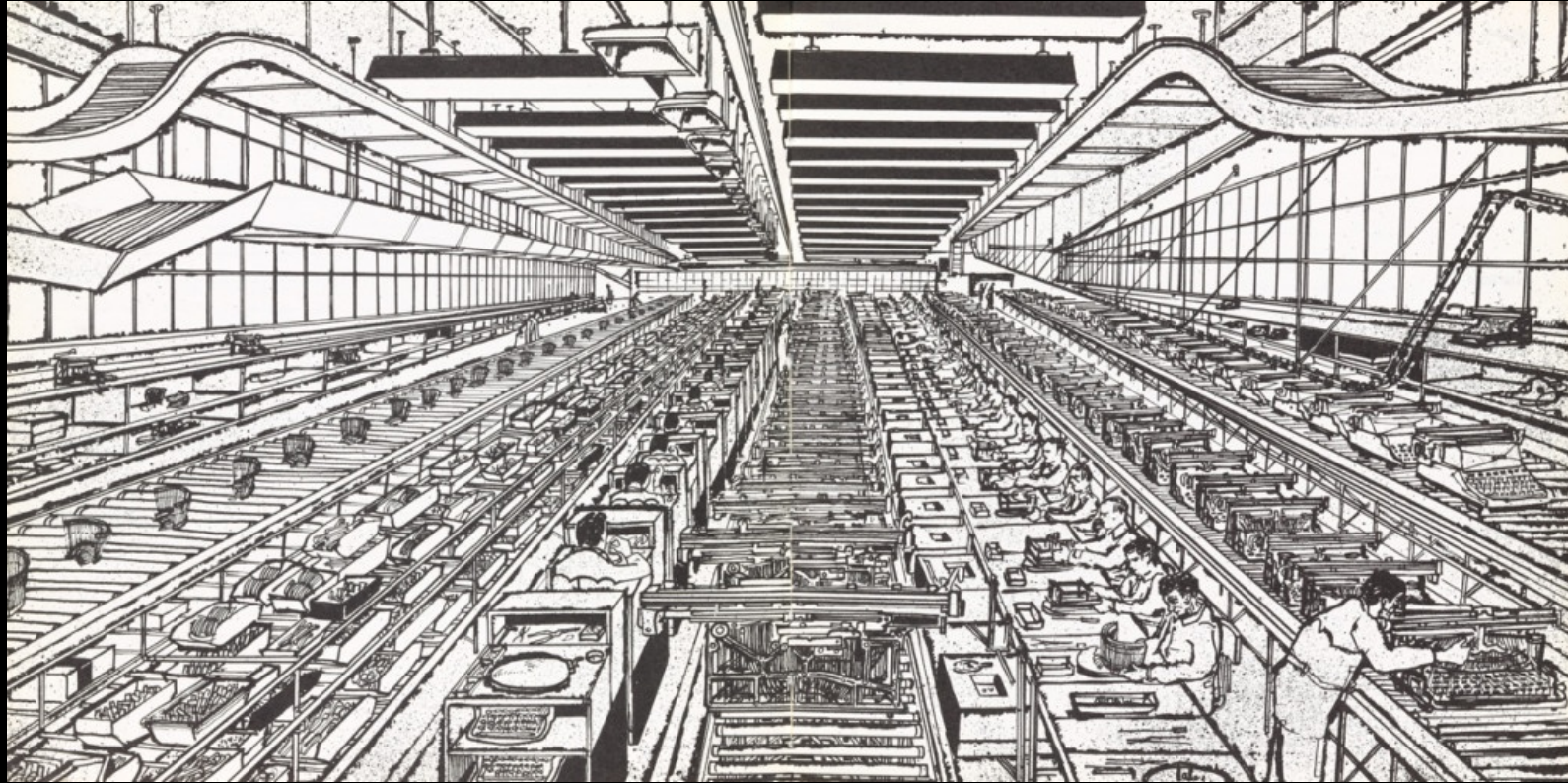
Teletypewriter
(T1, 1937)



G.A. Cignoni, F. Gadducci



New organization



A more efficient production line [late depiction]

A largely remunerative product

A large stake of the national market

G.A. Cignoni, F. Gadducci



New style

Lagomarsino
(i.e. fascist
rationalism)
vs. Olivetti
(i.e. “telefoni
bianchi”!!)

Bazzi (~1930)
vs. Boggeri &
Shawinsky
(1934)



LA RARA ELEGANZA DELLA
OLIVETTI PORTATILE È
STATA RICONOSCIUTA ED
ACCOLTA SENZA RISERVE.
SI È COMPRESO CHE LA
PERFEZIONE DELLE PARTI E
L'ARMONIA DELL'INSIEME
PLASTICO, SONO UNA RI-
GOROSA CONSEGUENZA
DELLA LOGICITÀ DELLA
CREAZIONE MECCANICA.

OLIVETTI
Portatile

LAGOMARSINO

ΑΕΙ Ο ΘΕΟΣ ΨΕΥΜΕΤΡΕΙ



1 2 3
2 4 6

10
20

LA PIÙ ANTICA E COMPLETA
ORGANIZZAZIONE ITALIANA
SPECIALIZZATA IN MACCHINE
ADDIZIONATRICI
CALCOLATRICI
CONTABILI
MILANO
PIAZZA DUOMO 21

G.A. Cignoni, F. Gadducci



A detour on Lagomarsino

Audit 52 (1934)

A Luce newsreel
from 1928...

In the meanwhile,
Olivetti becomes a
world player wrt.
typewriters and it
starts a chain of
Machine
contabili (1933-34)

...with new lines
up into WW2!!



Multisomma
4M (1941)

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After the war: New products...

Natale Capellaro (1902-1977),
yet another faithful employee

Divisumma 14 (1948)

Divisumma 24 (1956), one
million in 1967 (90% net)

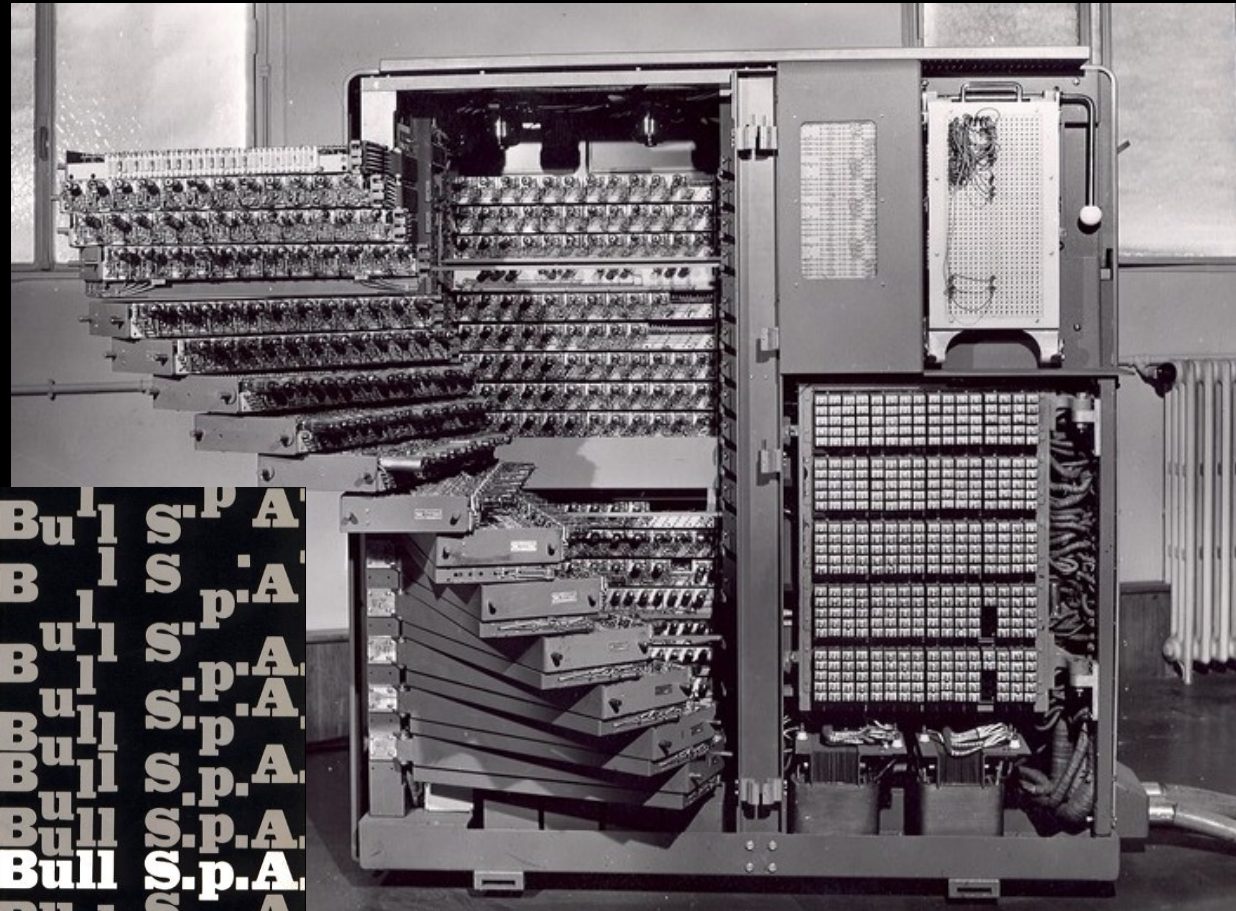


G.A. Cignoni, F. Gadducci



...and going into electronics

Bull partnership
(1949-64), mostly
for importing the
Gammas (thus
against IBM)



Le imprese di qualsiasi dimensione possono trovare in un Centro Meccanografico un mezzo sicuro per rendere più efficiente e dinamica la gestione aziendale.

La **Olivetti Bull** mettendo a disposizione della clientela la vasta gamma delle sue apparecchiature, offre la possibilità alle piccole come alle grandi aziende di avvalersi dei più moderni sistemi di elaborazione dei dati.

 **Macchine per l'elaborazione dei dati**



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A journey in the USA (1950)

Ist. Nazionale per
le Applicazioni del
Calcolo (1927)
Mauro Picone

Olivetti Corp.
of America (1950)
Dino Olivetti

Research labs in
New Canaan (Ct)
(1952)
Mario Canepa



G.A. Cignoni, F. Gadducci

MOMA and shops

New shops and subsidiaries in Chicago and S. Francisco (1952)

Most famous in New York (1954)

“Olivetti: design in industry” is held at MOMA (1952)



G.A. Cignoni, F. Gadducci



The Mark V attempt (early Fifties)

A joint venture

INAC
Harvard
Olivetti

Prof. H. H. Aiken ^{g. e. 612}
~~12854 - 2. A. 4231~~
Caro prof. Aiken, 20 February, 1952

ricevetti a suo tempo la Sua gentile lettera del 7
Prof. H. H. Aiken, me vivamente la ringrazio.
Computation Laboratory piacere di ricevere una lunga visita da parte di
Harvard University tornato in Italia, molto soddisfatto del periodo tra
Cambridge 38, Mass., U.S.A. Egli mi si è dichiarato in grado di progettare
(mi consenta di chiamarla così) Mark V da essere impiegata in qu
Dear Prof. Aiken:
I have received in due course your kind letter of 7 January
for which I express my deep thanks. I have had the pleasure of a
long visit from engineer Canepa, who has returned to Italy deeply
satisfied with the time spent at your laboratory. He has told me
that he is in the position to project (if you will allow me to
call it such) a Mark V to be used at this institute. For the actual
construction of the machine we will have the financial and technical
assistance of the Olivetti Company, which will give leave
to Canepa and another engineer or technician to remain at Rome
to devote themselves to the machine's construction.

G.A. Cignoni, F. Gadducci



After a long thinking, Picone buys

FINAC (1954)

Ferranti Mk1*

[In those same months, also Politecnico di Milano buys (Luigi Dadda)]

[Somehow, both fundings are related to Marshall Plan]



G.A. Cignoni, F. Gadducci

The University of Pisa project

Funded by three (3)
local administrations
(Pisa-Lucca-Livorno)

Pushed by both the
Physics Department
& its community

Firmly endorsed by
Enrico Fermi

RIUNIONE PER EL SINCROTRONE DEL 20 MARZO 1954
Ripartizione del fondo di 150 milioni tra gli Enti

Comune di Pisa	£. 40.000.000)	90.000.000
Provincia di Pisa	" 50.000.000)	
Comune di Livorno	" 15.000.000)	33.000.000
Provincia di Livorno	" 18.000.000)	
Comune di Lucca	" 12.000.000)	27.000.000
Provincia di Lucca	" 15.000.000)	

FINANZIAMENTO

Anni	Spettrografo di massa	Calcolatrice elettronica	Totale
1955	10.000.000	8.000.000	18.000.000
1956	10.000.000	26.000.000	36.000.000
1957	8.000.000	27.000.000	35.000.000
1958	-	30.000.000	30.000.000
1959	-	31.000.000	31.000.000
	28.000.000	122.000.000	150.000.000

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Olivetti joins

Officially in 1956

Funding, materials,
and personnel
(1956-1961)

Mario Tchou was
helping since 1955

[10k per year, plus
120k total by local
funds, plus more by
the National Inst. of
Nuclear Physics]

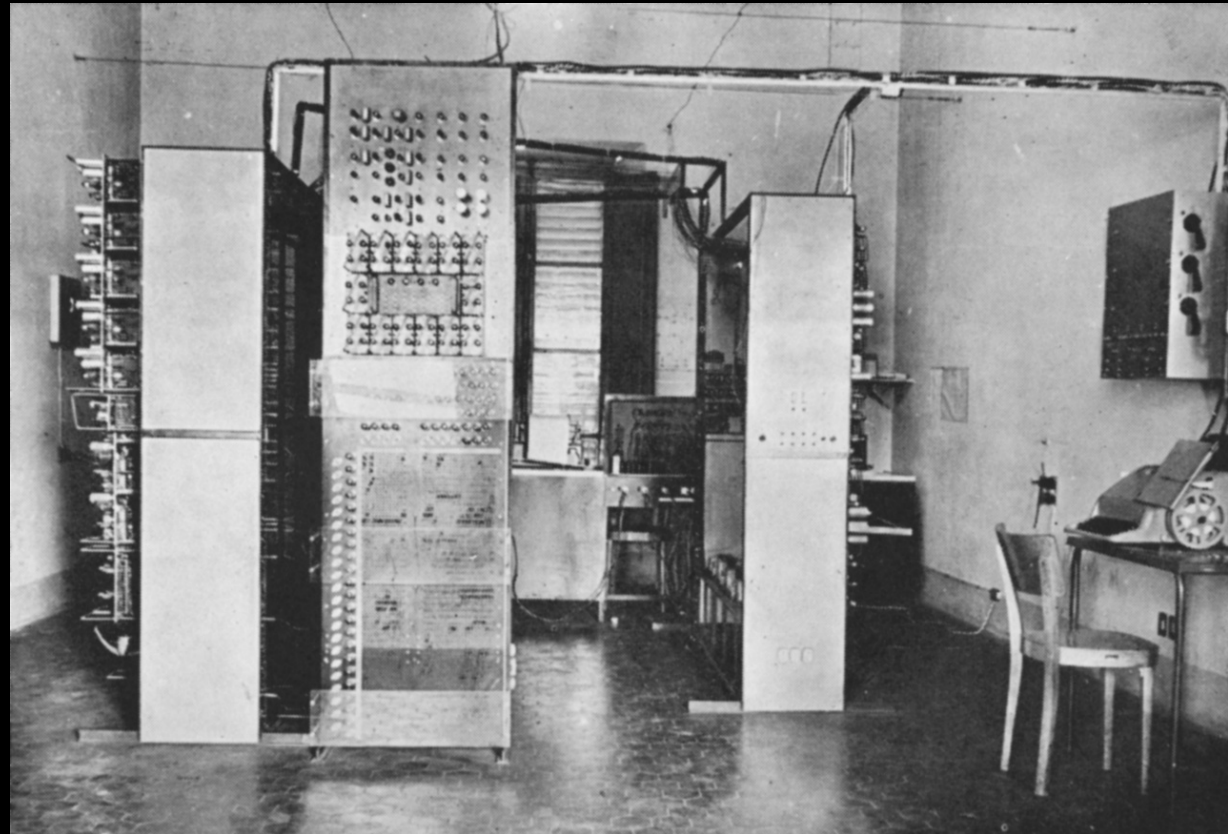


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The Macchina Ridotta

Alfonso Caracciolo
Elio Fabri
Giuseppe Cecchini
Sergio Sibani
(1957)

The very first
Italian computer



G.A. Cignoni, F. Gadducci

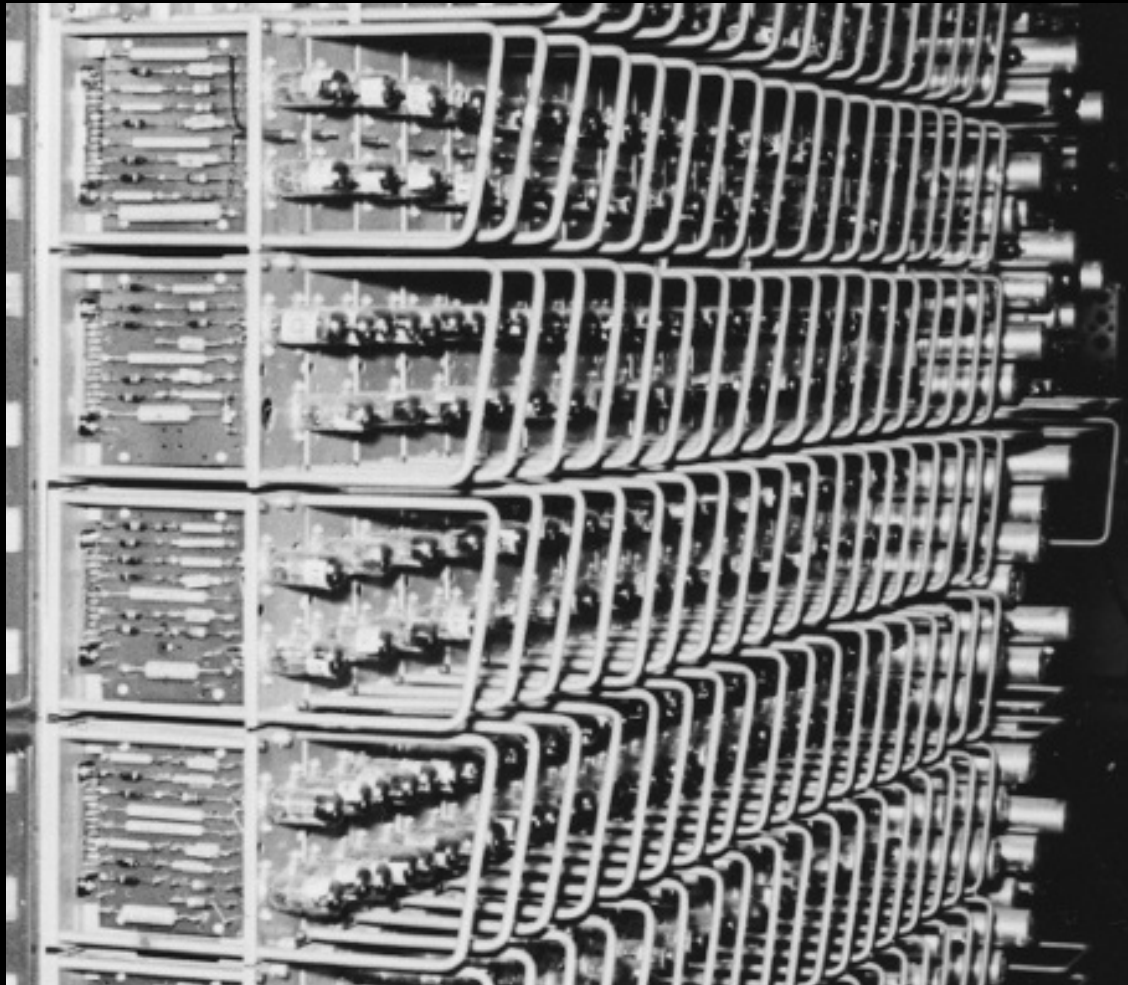


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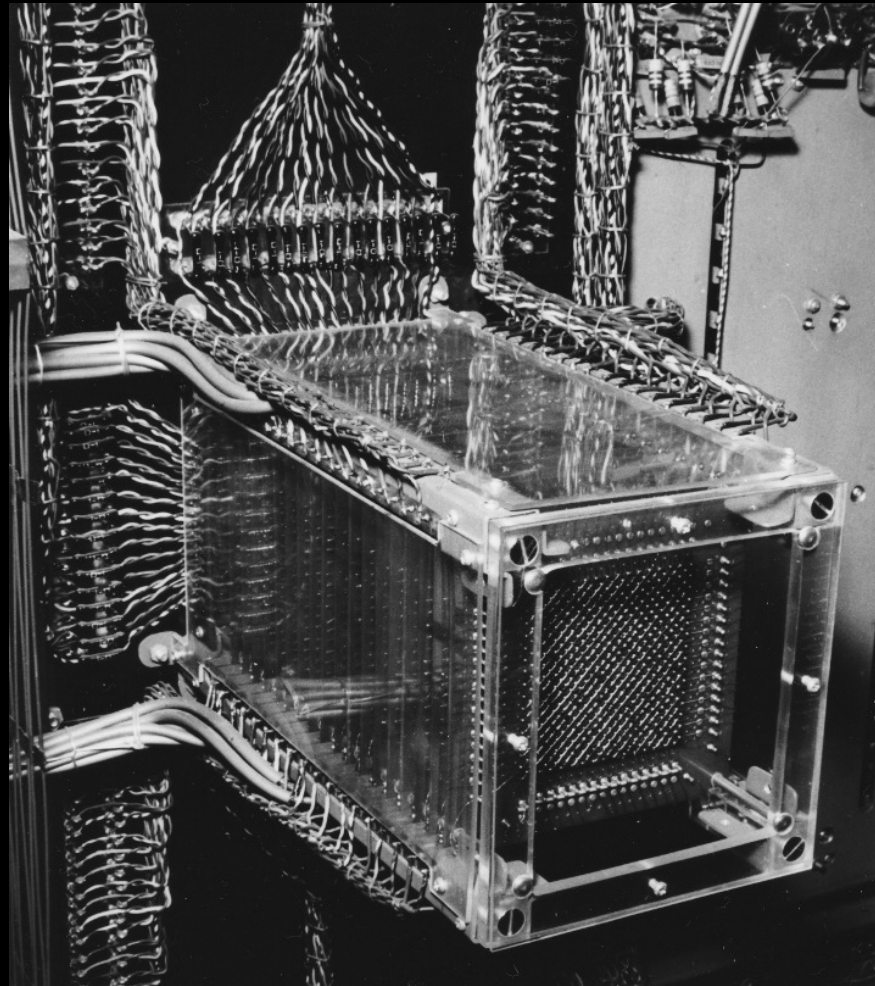
Parallel machine



G.A. Cignoni, F. Gadducci

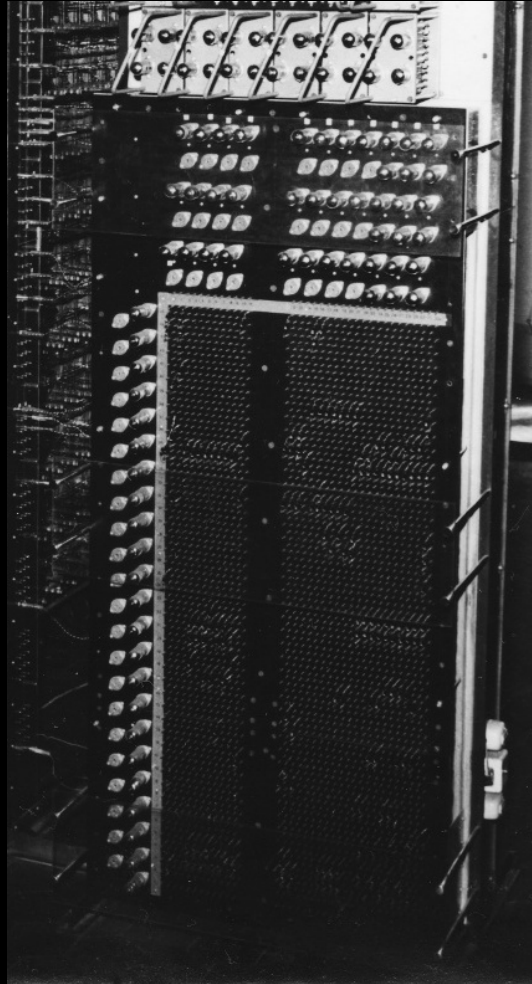


Ferrite core memory



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Microprogrammed control



A small but fine machine

State of the art,
for its time

Few interesting
features

hot breakpoints

DMA access

[a nice T2 (1949) is
in plain view]

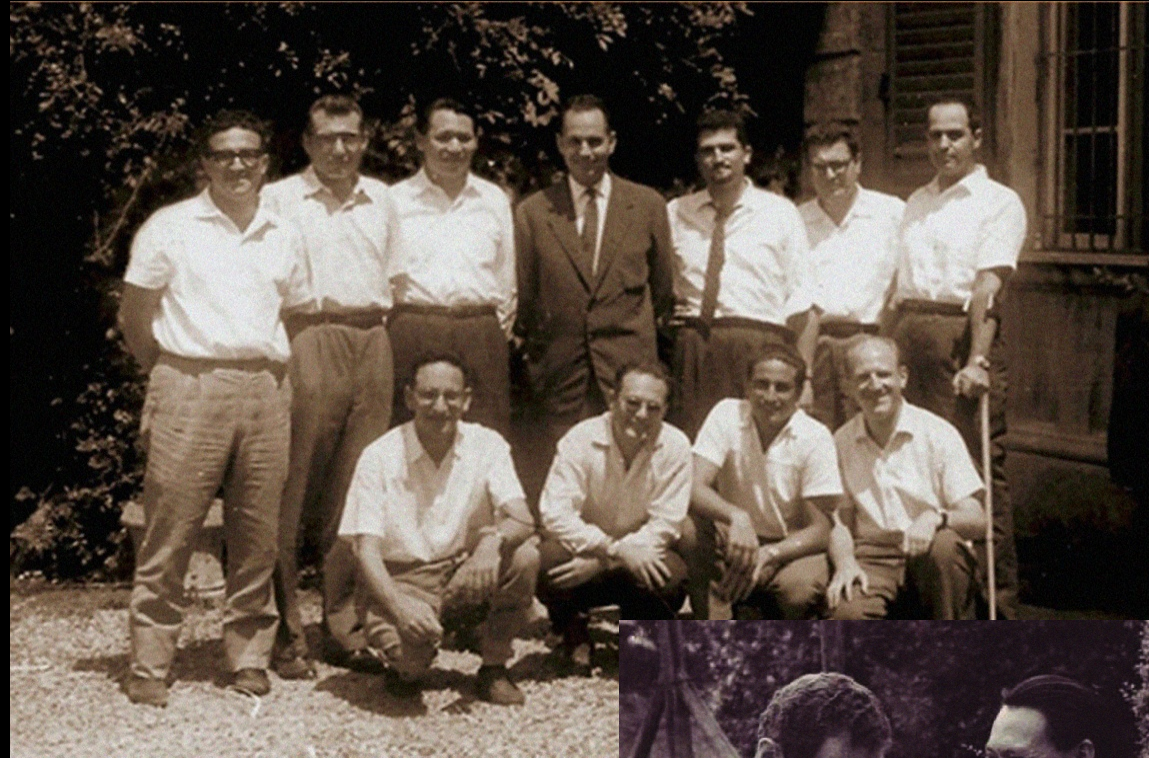


G.A. Cignoni, F. Gadducci

The “other” Olivetti project in Pisa

Laboratorio
Ricerche
Elettroniche
(Barbaricina,
Pisa, 1955-58)

...and two of
its important
protagonists:
Roberto O.
(1928-1985) -
Mario Tchou
(1924-1961)



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The first Olivetti
Computer, called
Macchina Zero
(1958)

[Here in its later
home in Ivrea]



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Transistors are coming

W.B. Shockley,
J. Bardeen,
W. Brattain

R. Noyce
The Traitoruos Eight
S.M. Fairchild
(1957)



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Transistors vs tubes

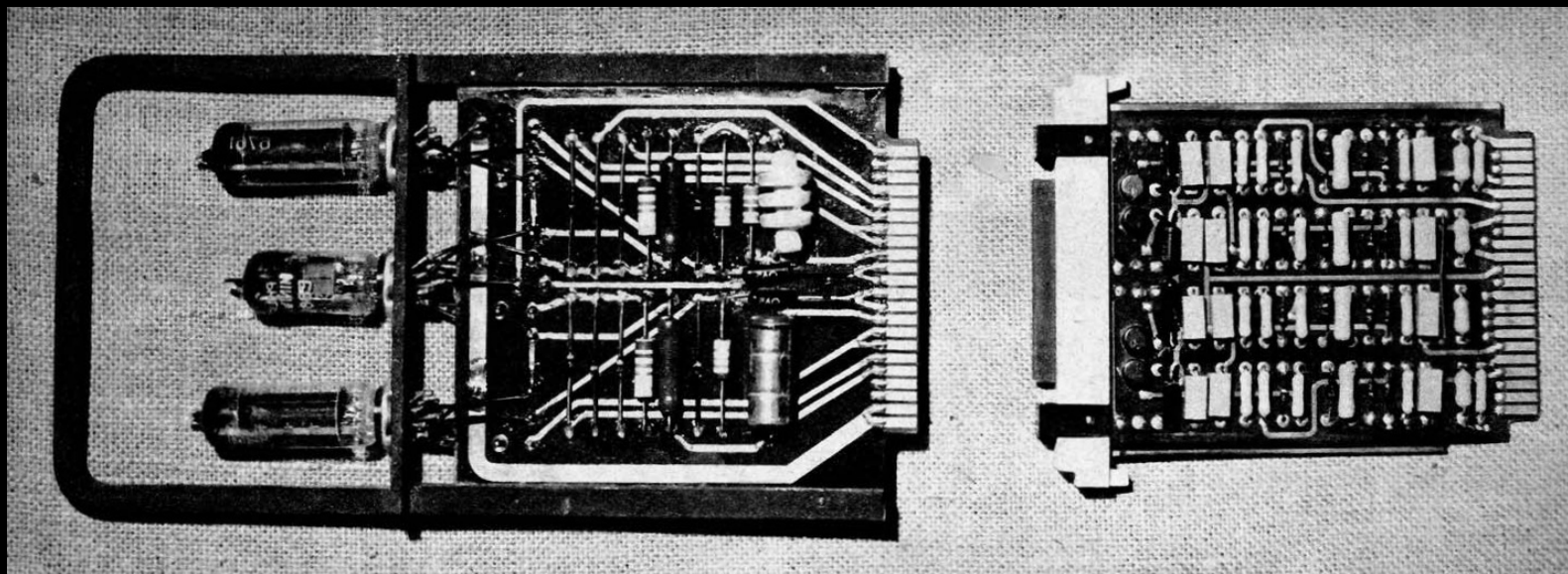
Smaller,
low voltages,
no heating

Neither faster,
nor more reliable
(at least initially)



G.A. Cignoni, F. Gadducci

The Olivetti technology switch



The ELEA project starts with Macchina Zero (aka ELEA 9001V)

SGS established by Olivetti & Telettra (with Fairchild as partner)

LRE moves to Borgolombardo (near Milan)

G.A. Cignoni, F. Gadducci

ELEA 9002



Presented at the 1959 Milan Fair
(here at the Olivetti HQ in town)

G.A. Cignoni, F. Gadducci



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Design..

Compasso d'oro

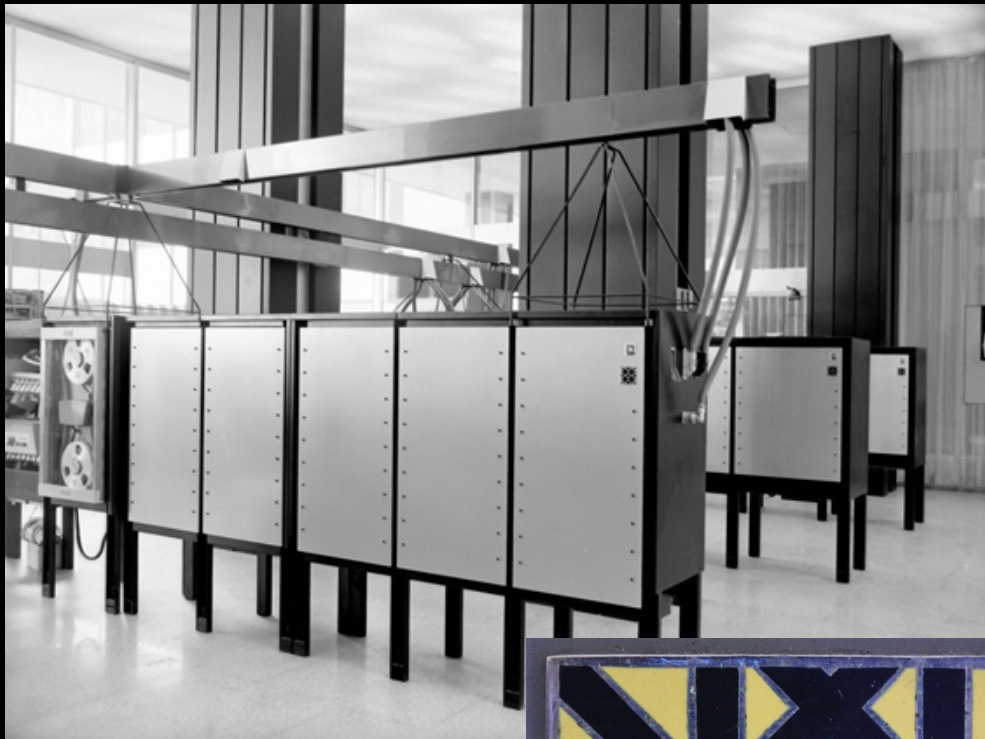
«... delle specie
di armadi... molto
fantascientifici...
un aspetto
assolutamente
metafisico e
impenetrabile...»

Ettore Sottsass Jr.



G.A. Cignoni, F. Gadducci

...and new ergonomics/signs



Courtesy E. Mori

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G.A. Cignoni, F. Gadducci



An overall idea of design



Sottsass&Maldonado at ULM (1959)
at work on the chassis of Tekne 3

a)	f)	l)	q)
b)	g)	m)	r)
c)	h)	n)	s)
d)	i)	o)	t)
e)	k)	p)	u)

a) functional unit
 b) central unit
 c) marginal unit
 d) memory
 e) magnetic tape
 f) write
 g) read
 h) receive
 i) trace
 k) find
 l) mistake
 m) on
 n) off
 o) over
 p) blocked
 q) stop mistake due to jump
 r) read magnetic tape
 s) accumulator at work
 t) trace finished
 u) magnetic tape reading over

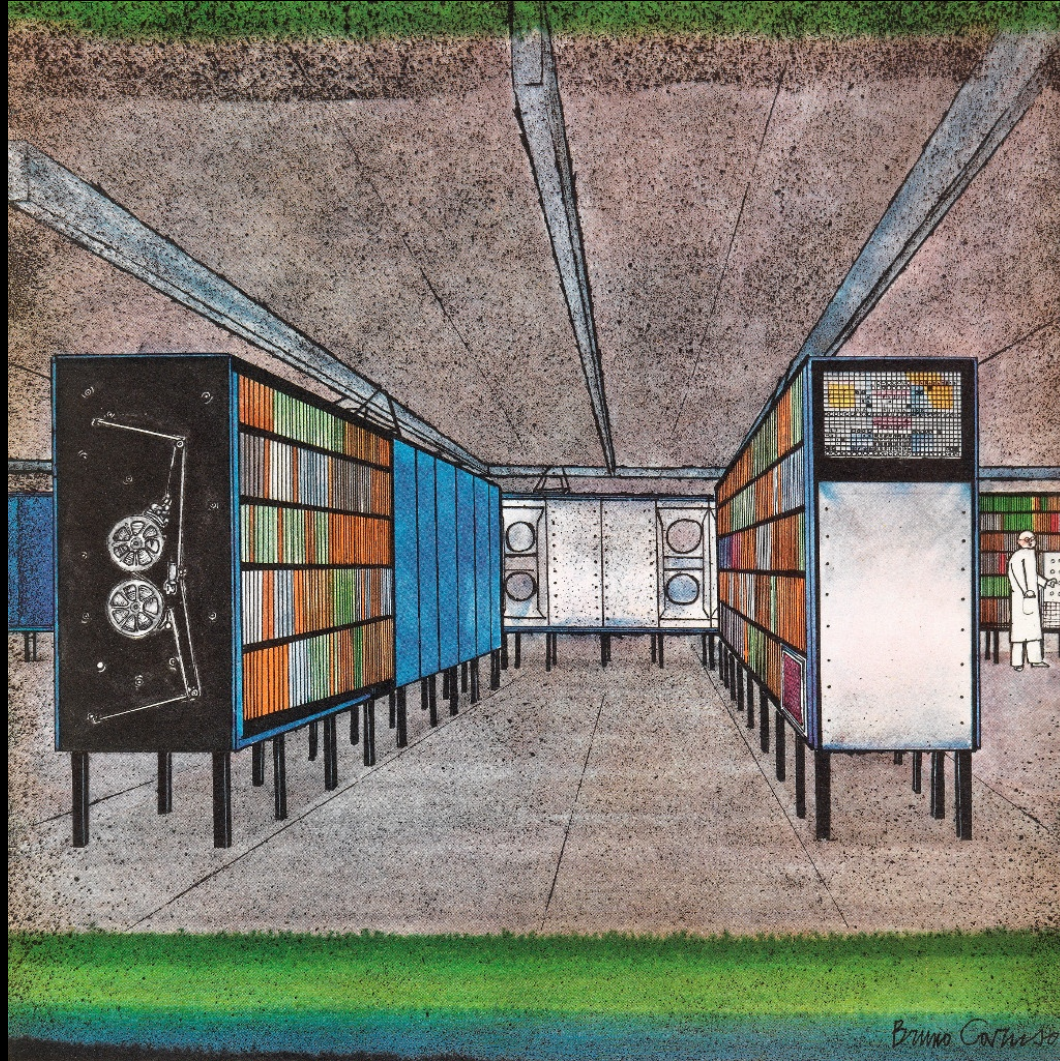
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Design and branding

Bruno Caruso

Agenda Olivetti 1960



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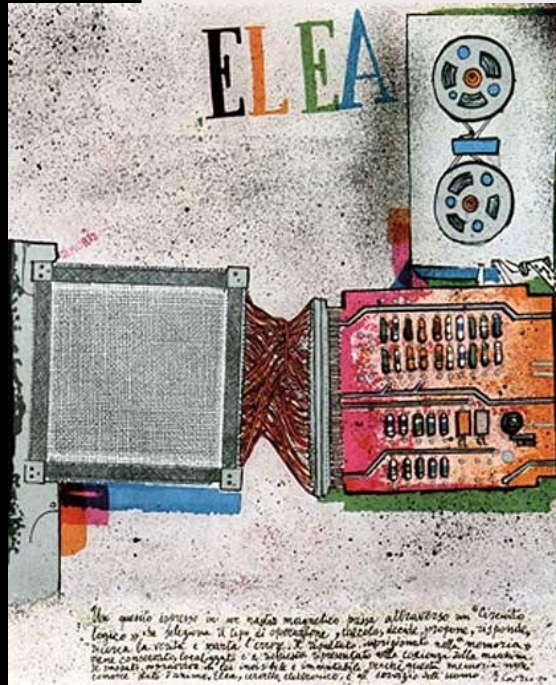
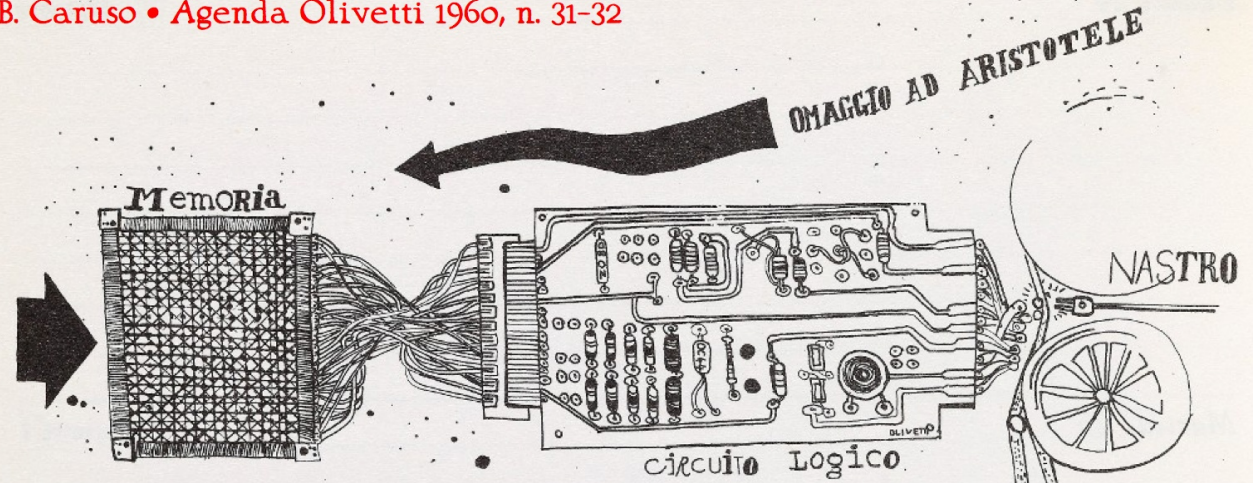


A few more examples

Reasoning on
Elaboratore
Elettronico
Automatico
(ELEA school)

...and adding
an art market
touch!!

B. Caruso • Agenda Olivetti 1960, n. 31-32



*Il nastro magnetico passa attraverso un "Circuito Logico",
che decide, propone, risponde, ricerca la verità,
cerca il "nessito" in abstracto secondo la «logica formale», che prescinde
dal fatto imprigionato nella "memoria" viene conservato, localizzato
e conservato nella coscienza della macchina. Il passato sopravvive in lei invisibile
e non conosce stati d'animo. Il cervello elettronico elabora cento
parole e risponde parlando. Ma quale orecchio potrebbe per-
cepire o umano intendere?
B. Caruso*

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B. Caruso*

G.A. Cignoni, F. Gadducci



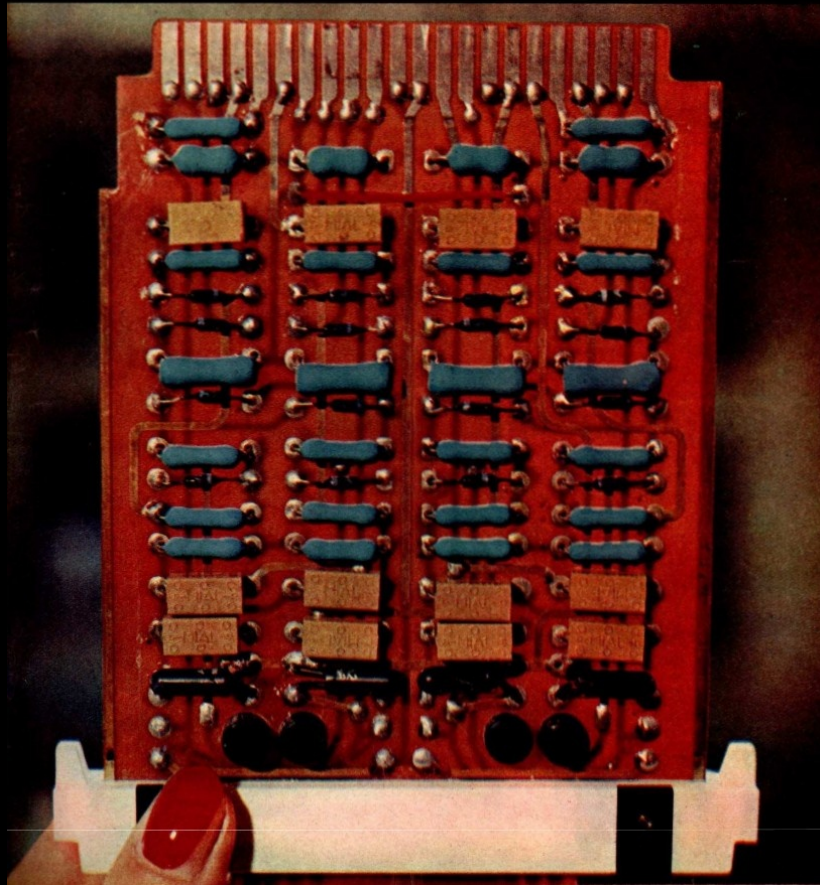
Brand advertising, popular

Epoca magazine

Technology
popularization
(with a bit of hype)

Servizio Industriale

**Anche in Italia
il futuro è già cominciato**



G.A. Cignoni, F. Gadducci



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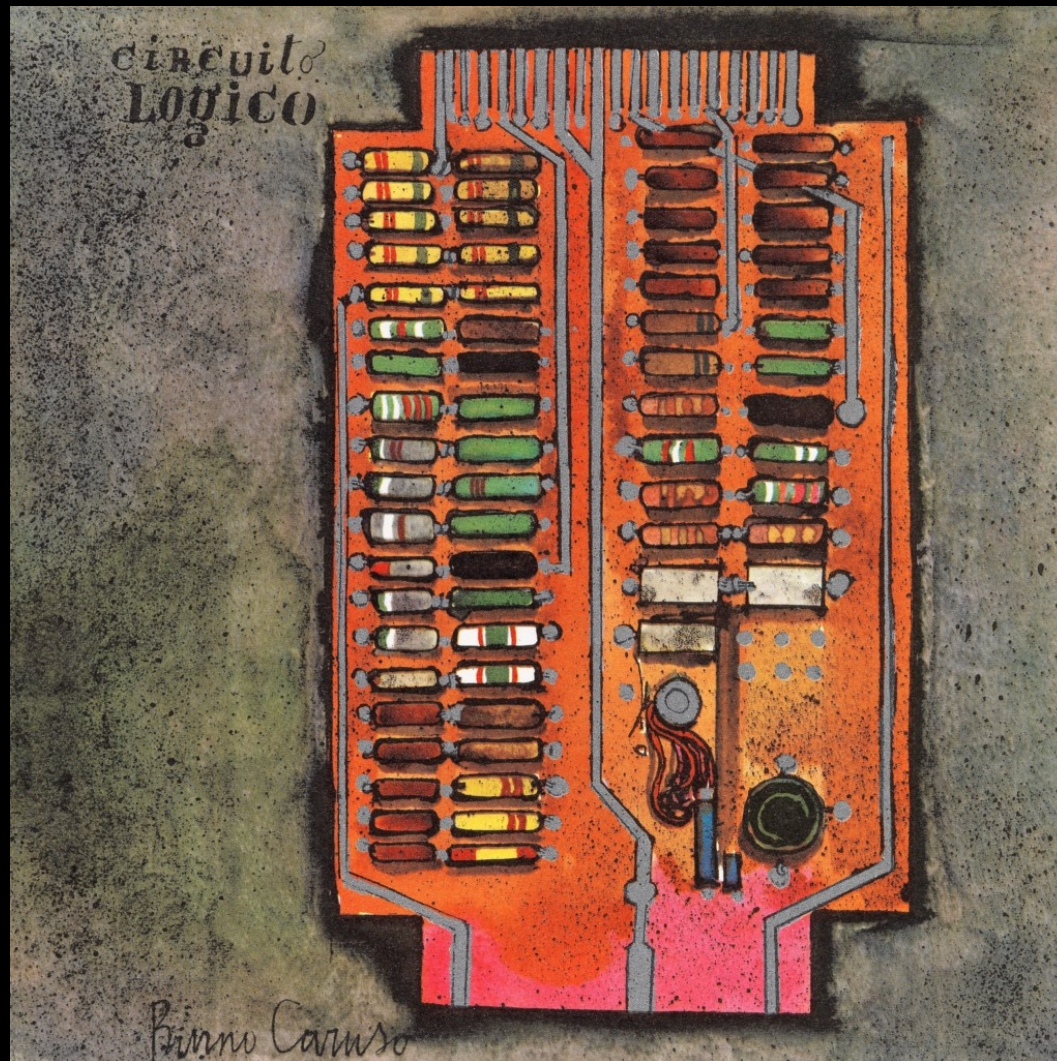


Brand advertising, cultural

«... calcola, decide,
propone, risponde,
ricerca la verità,
scarta l'errore...

... il passato
sopravvive invisibile
e immutabile
perché questa
memoria
non conosce
stati d'animo...»

Bruno Caruso



G.A. Cignoni, F. Gadducci



The ELEA 9003

LRE moves to Pregnana (Mi)

About 40 sold

Marzotto (textile)

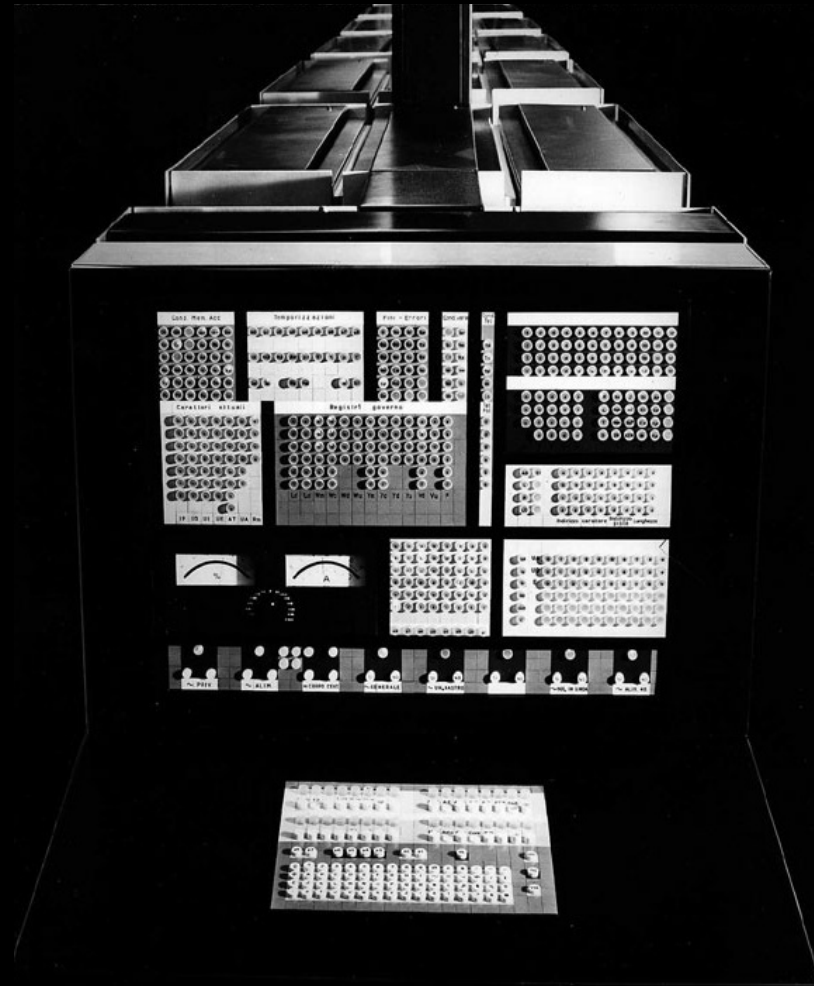
MPS (bank)

Fiat (automotive)

San Paolo (bank)

Motta (food)

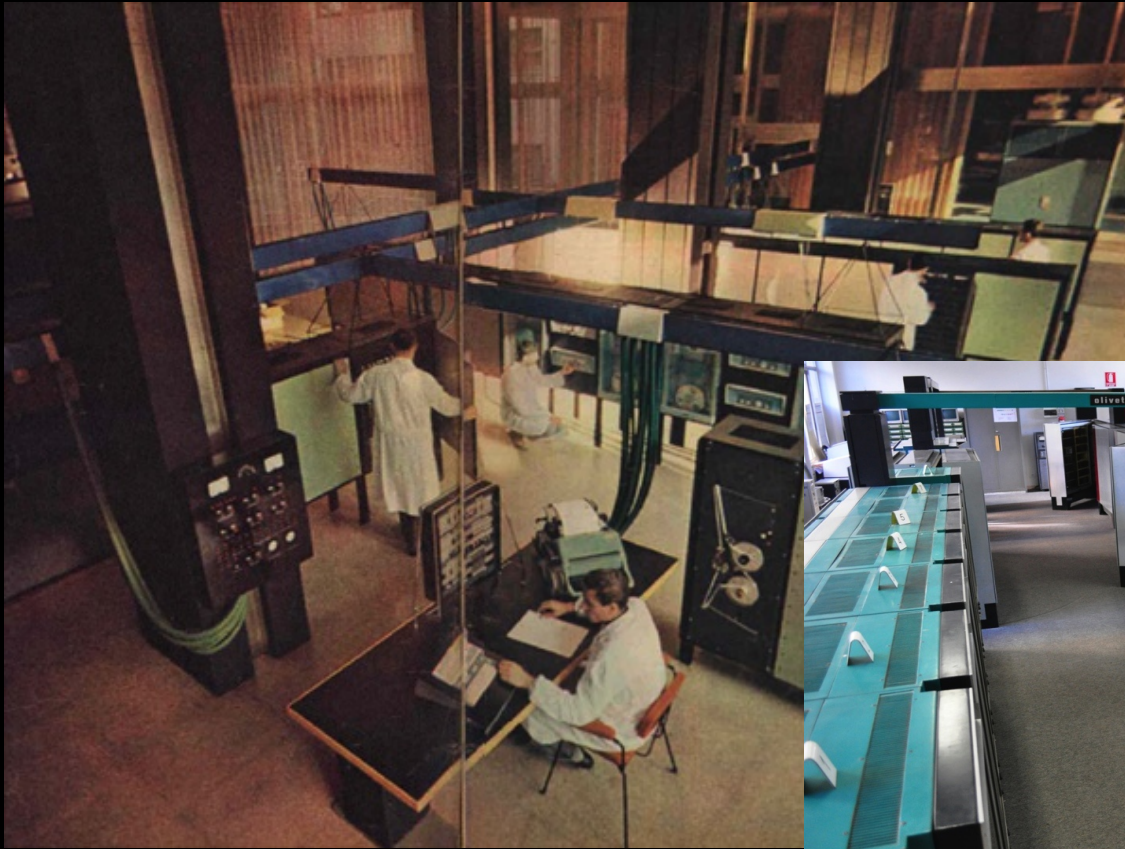
...



G.A. Cignoni, F. Gadducci



Now and then...



The only surviving picture in color of the 9002...



...and the only 9003 that is still complete (at ISIS Bibbiena-AR)

G.A. Cignoni, F. Gadducci



Brand advertising, widespread

Christmas 1960

TELEGRAMMA *922*

Mod. 30 (Ediz. 1960)

N. *922* di recapito. Rimesso al fattorino alle ore

93 = RETTORE PROF ALESSANDRO

MODULARIO
Telegr. - 61

INDICAZIONI D'URGENZA Ricevuto il

Per circuito N. *93* FAEDO UNIVERSITA PISA =

Qualifica DESTINAZIONI

Stampa: Bollo di Ufficio 22.12.60

Stampa: Bollo di Ufficio

Roma - Istituto Poligrafico dello Stato P.V.

DA PISA FN 99 21 23 1330

SEZIONE INGEGNERIA AUGURA BUON NATALE COMUNICANDO CEP GIA'

FUNZIONANTE MAGGIORANZA SUE ISTRUZIONI + SEZIONE INGEGNERIA CSCE +

 macchine per contabilità e statistica
calcolatori elettronici

olivetti

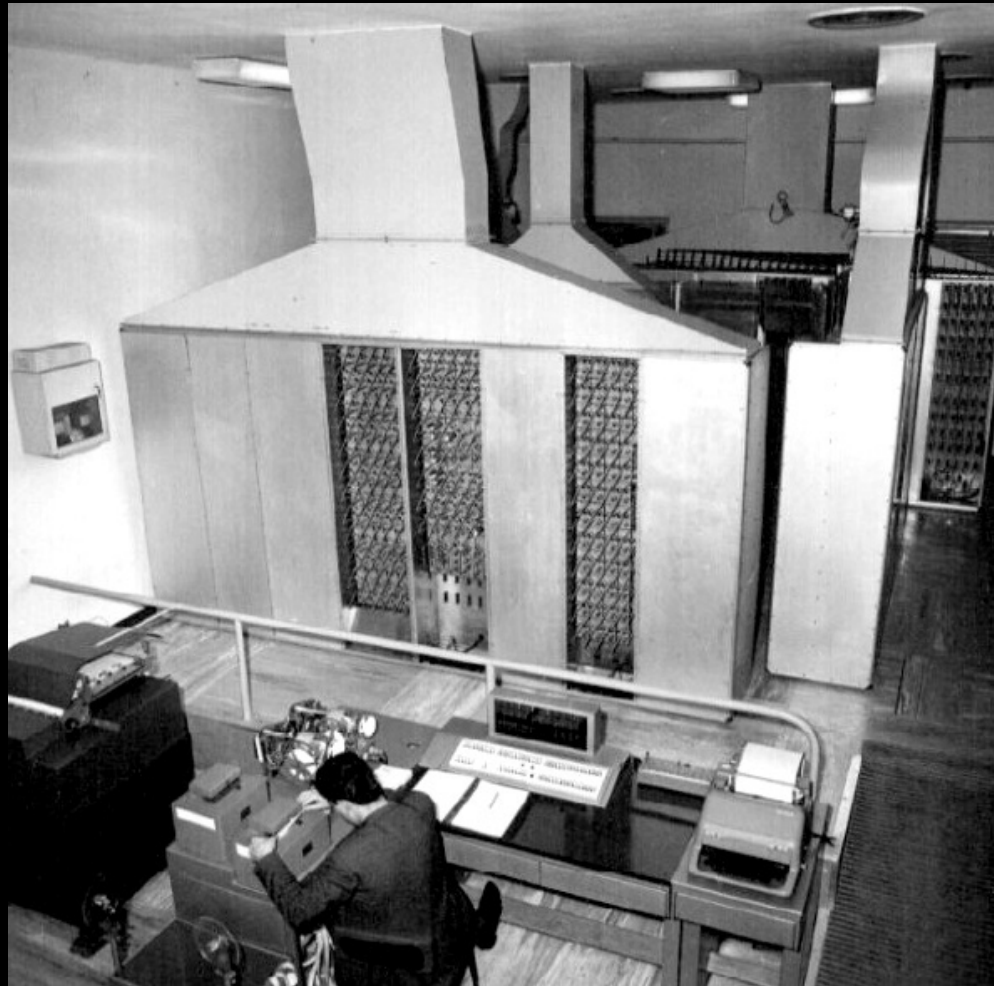
G.A. Cignoni, F. Gadducci



The outdone partner

The second computer of the University of Pisa

Ready in early 1961, still based on vacuum tubes (due to a lack of money)



G.A. Cignoni, F. Gadducci



Not the first transistor computer

Few earlier ones:

MIT TX-0 (1956)

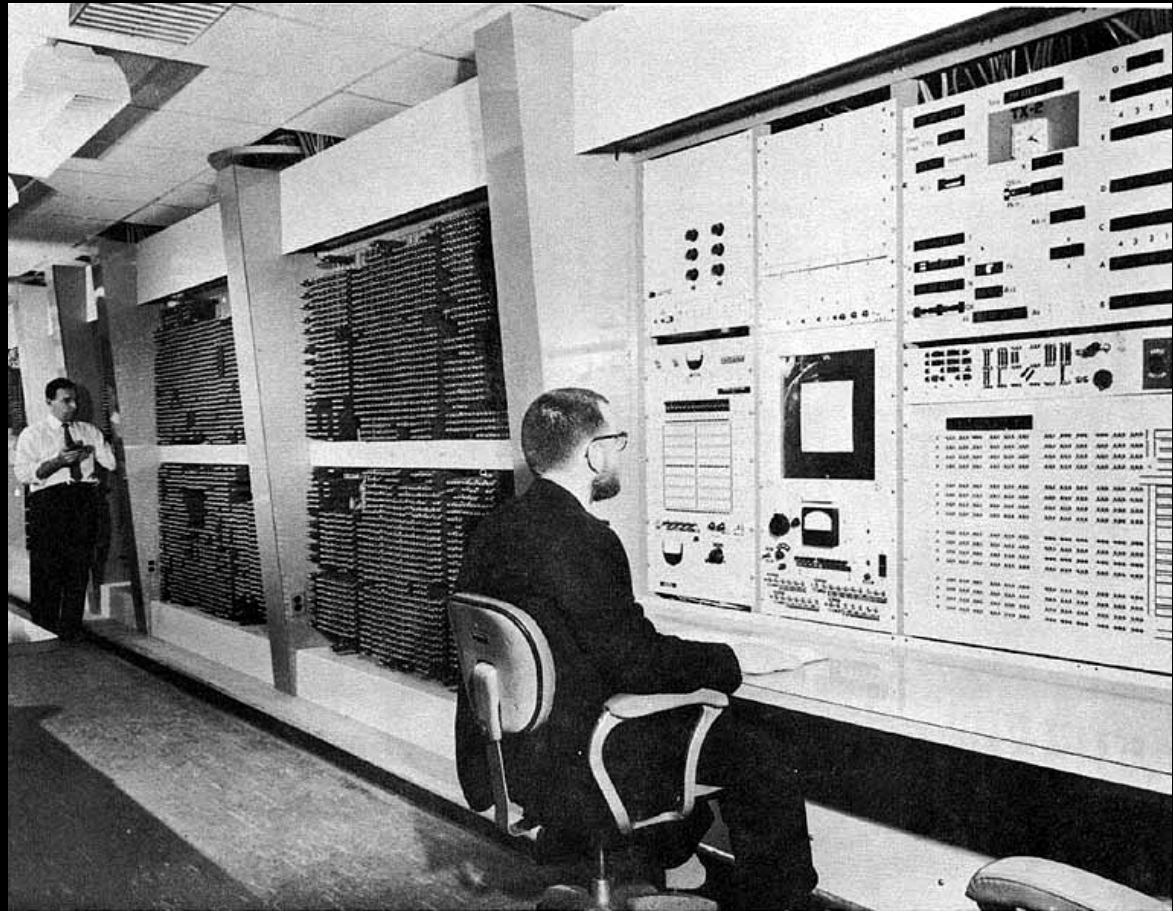
IBM 608 (1957)

MIT TX-2 (1958)

Ferranti Argus (1958)

IBM 7090 (1959)

PDP-1 (1960)



G.A. Cignoni, F. Gadducci

More important than primacy...

A unique blend of expertise (pivotal for the industry in Italy for so many years to come)

[at Borgolombardo, around 1960]



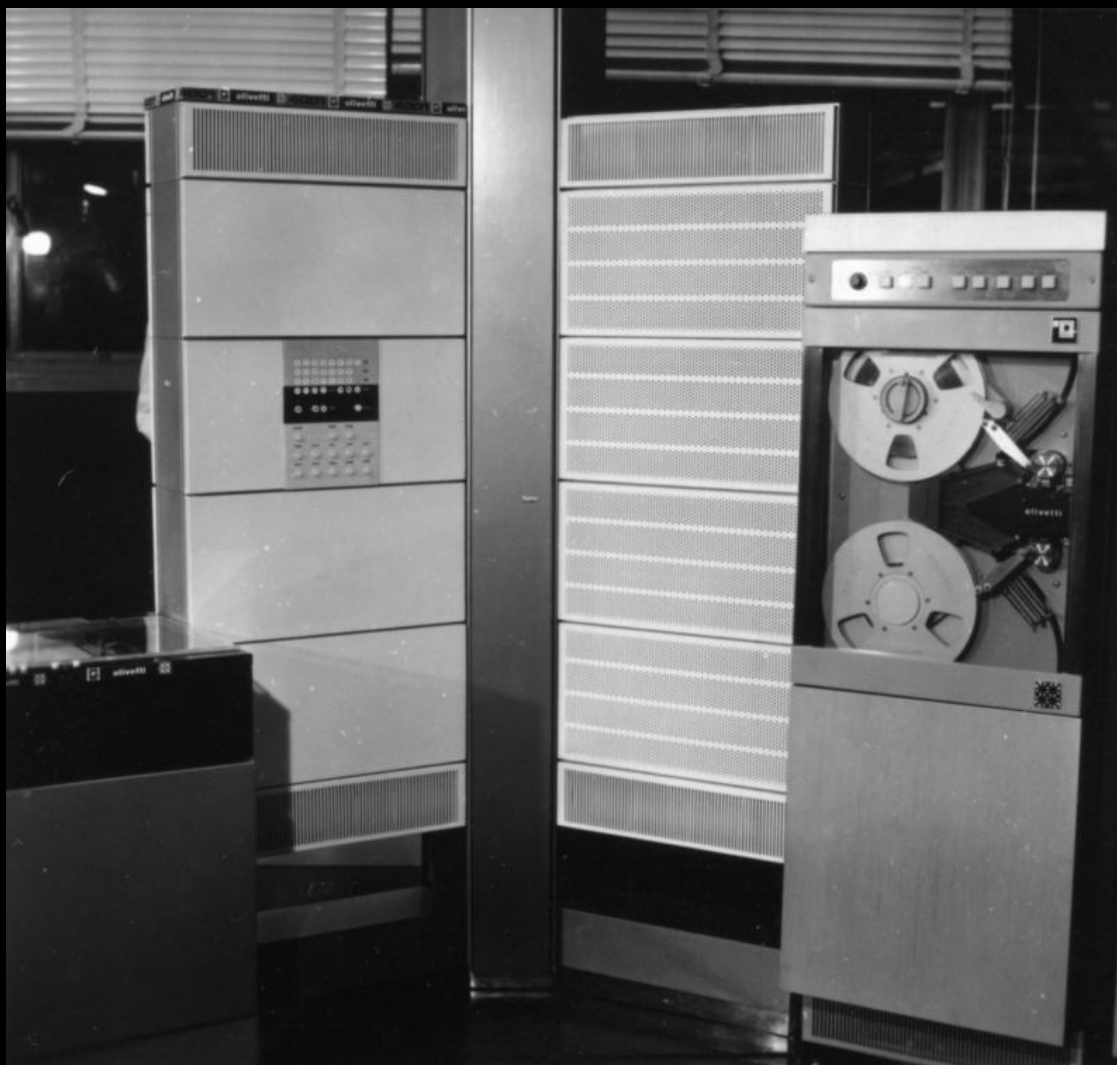
G.A. Cignoni, F. Gadducci



A well-established division

ELEA 6001 (1961),
a modular, upgraded
version of 9003

ELEA 4001 (1963),
an improved design
(Sottsass & van Onck)



G.A. Cignoni, F. Gadducci



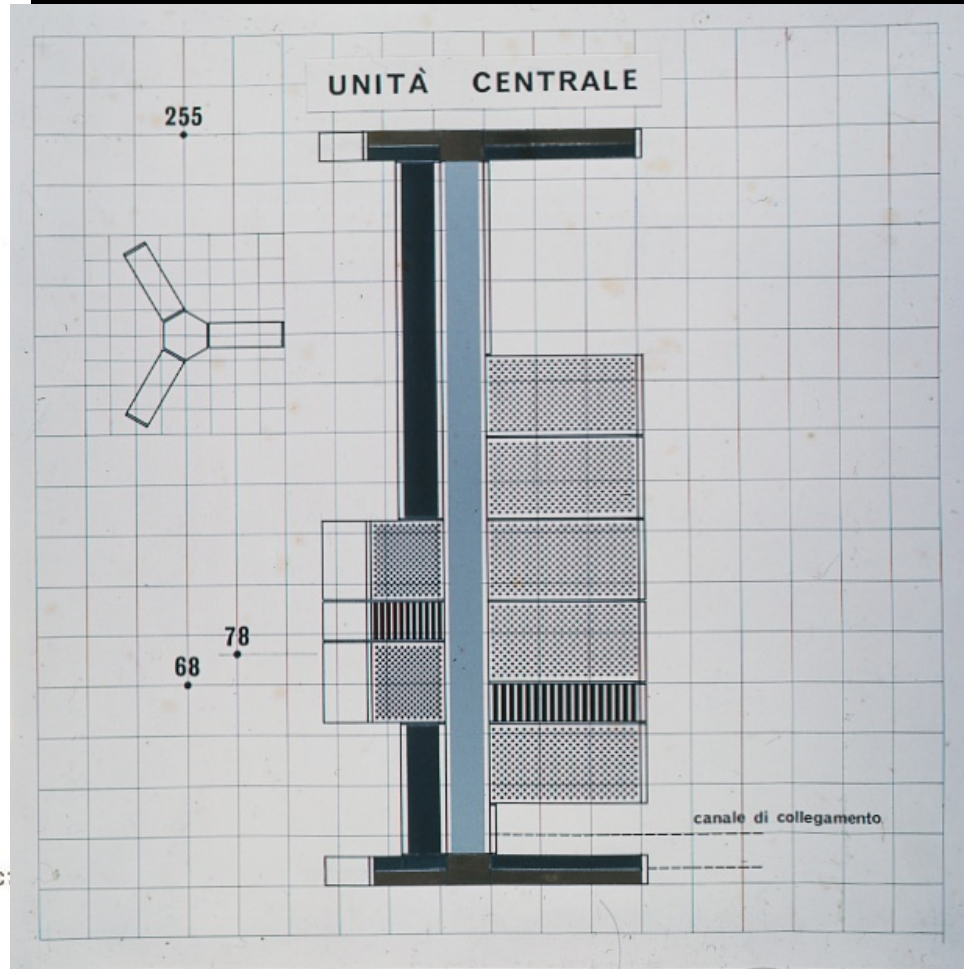
Advertising 4001 (& some drafts)

elea 4001

Tutte le esperienze realizzate, i risultati già raggiunti, con costante sforzo di ricerca e rapida espansione sul mercato, dall'elettronica Olivetti, sono racchiusi nell'Elea 4001: elaboratore elettronico medio-piccolo per dimensioni e di basso costo.

Elaboratore di tipo universale, l'Elea 4001 opera con memorie a nastro ed a dischi, con supporti di ogni tipo (schede, nastri perforati, caratteri magnetici CMC) con stazioni d'interrogazione e strumenti di misura. Eccezionali le sue caratteristiche di modularità.

olivetti Elettronica



Courtesy E. Mori

G.A. Cignoni, F. Gadducci



A well-established division, 2

Still good
scientific
connections

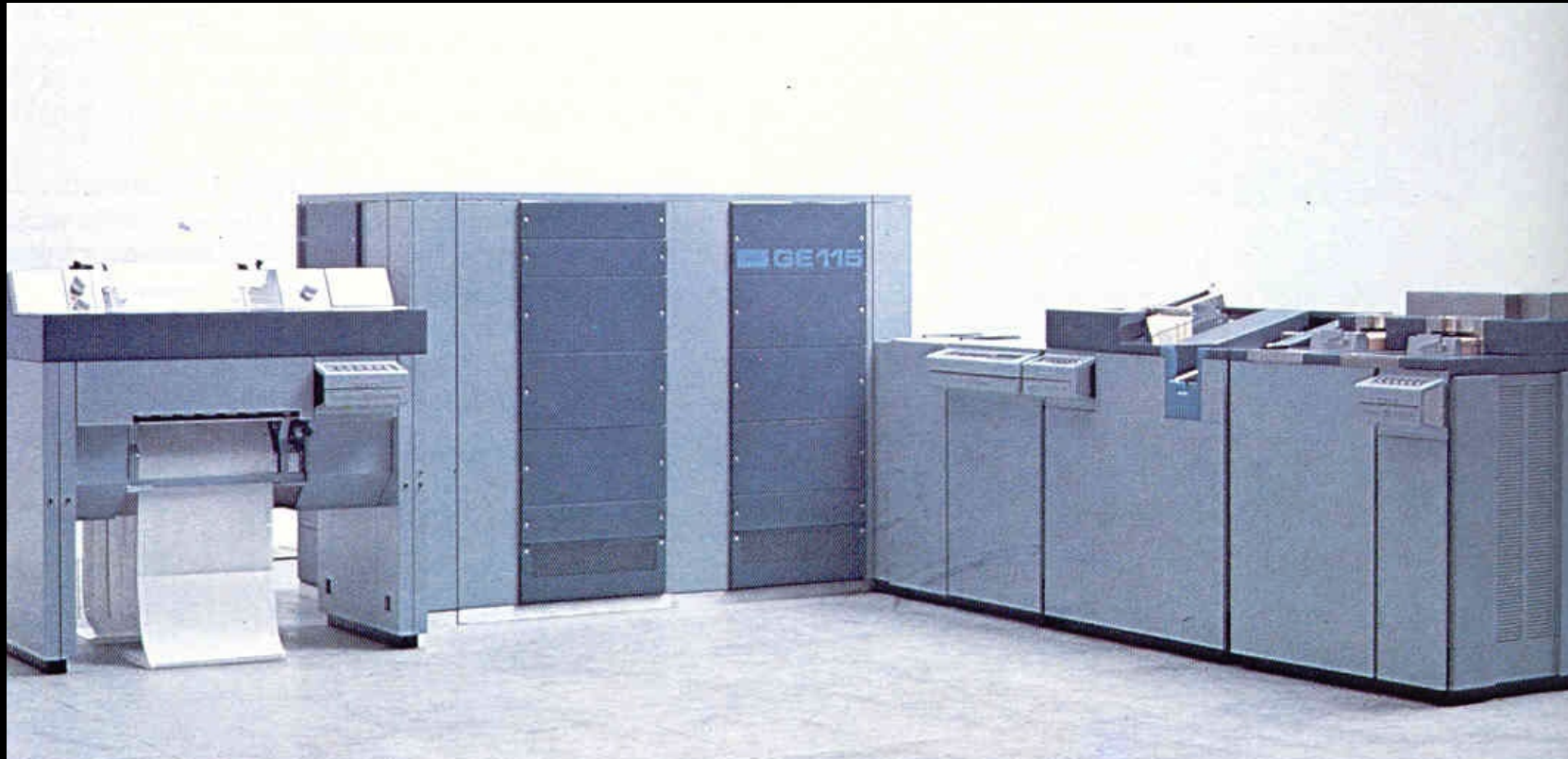
CINAC
refurbishing
Olivetti 9104

[A Ferranti
emulator, to
save software]



G.A. Cignoni, F. Gadducci

A quickly dismissed division



Selling out to General Electric in 1965 (various causes: money crunch, success of electric division, lack of vision in the industrial/political complex)

ELEA 4-115: 3300 sold as GE 115, 60% in US

G.A. Cignoni, F. Gadducci



Summing up

Two intertwined threads mark the Olivetti history

Scientific and technological background (see Camillo&Adriano)

Constant search for technological partners (INAC, Univ. of Pisa)

Planned establishing of the Electronic Division (Tchou)

Careful attention to branding

Social issues

Design style

Cultural utopism

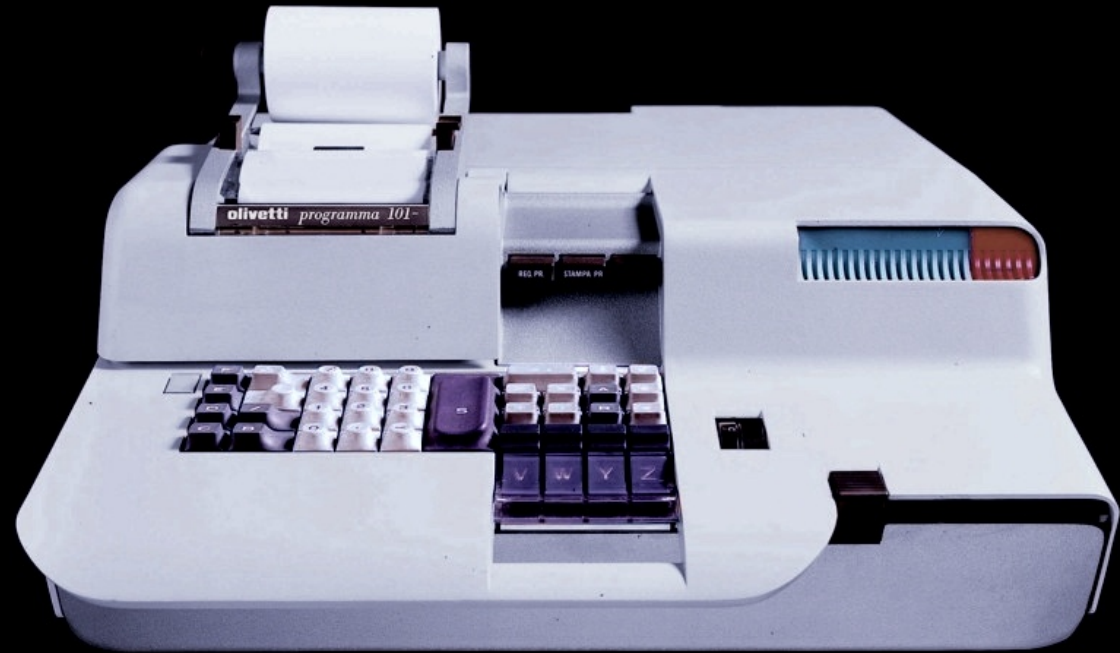
G.A. Cignoni, F. Gadducci



A different story

Programma 101
(aka perottina)

After dismissal
of the electronic
division (1965)



G.A. Cignoni, F. Gadducci