

(statue) ,18

1921 가 (Karel  
Kapek) < Rossum's Universal Robots>

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(Isaac Asimov) 1950 <I Robot>

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20 가 가 21 가

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1962 (Unimation) GM

1 2000 ,21

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21 가

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'Cog' : MIT AI

(五感)

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.1950

TV

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(Sony)

'(Aibo)'가

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가 가

1996

(Honda)

P2

1999

P3

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20 5 가

P3

13

(Honda)

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가 가

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(Bicentennial Man)

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.MIT AI

'Cog'

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1994

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(1976-1980 )

(1980-1982 )

(1983-

1987 ). 1987

(Michigan Univ.)

(1996-

1997) . 'calibration system'

(1990 ), 'off-line programming system'

(1992 ), 'Stud welding robot system' '3 system'

(1991 , 1994 ) , 1999

KIST

.SF 가

가 (Sony)가 (Aibo)

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(AI) 가

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< > 2000 3 ,p92. 가 ( 가 ) )

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(1999 6 , 5

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ERS - 110 (3 ) (2 ) , 20 4

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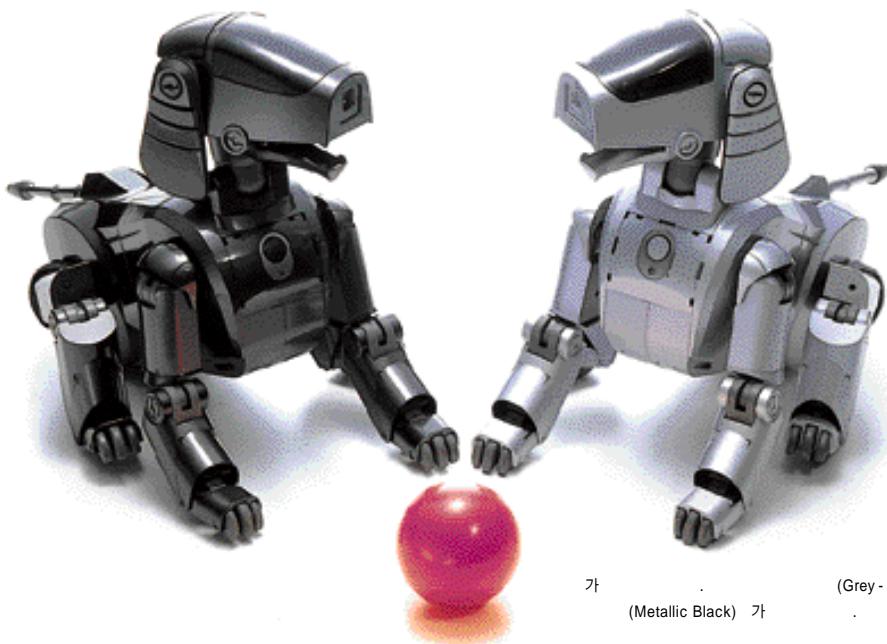
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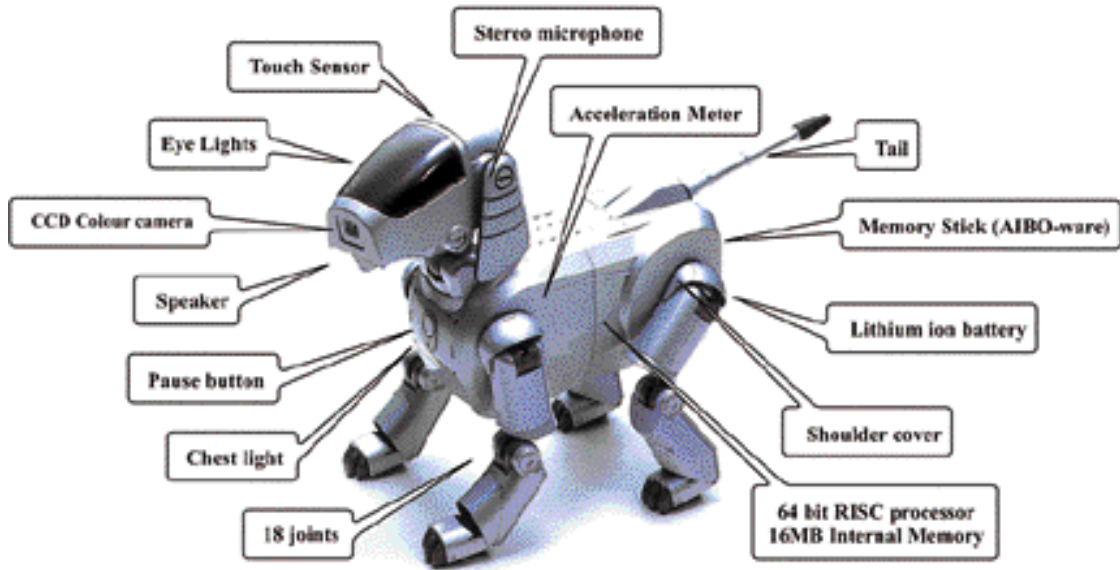
가



가 (Metallic Black) 가 (Grey - Silver)

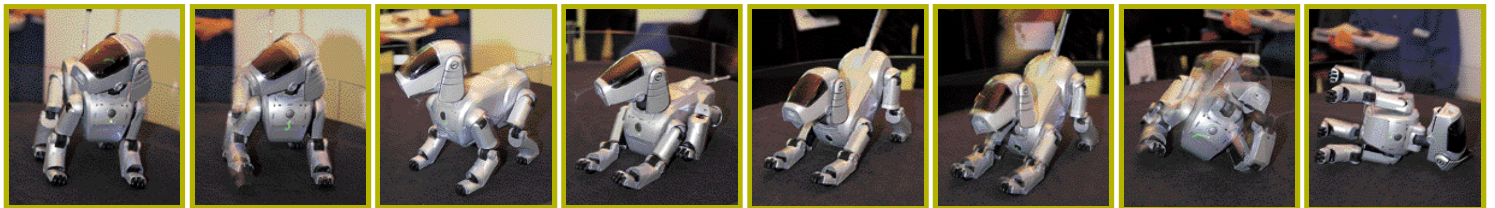
(Sound Controller)

’ 가’

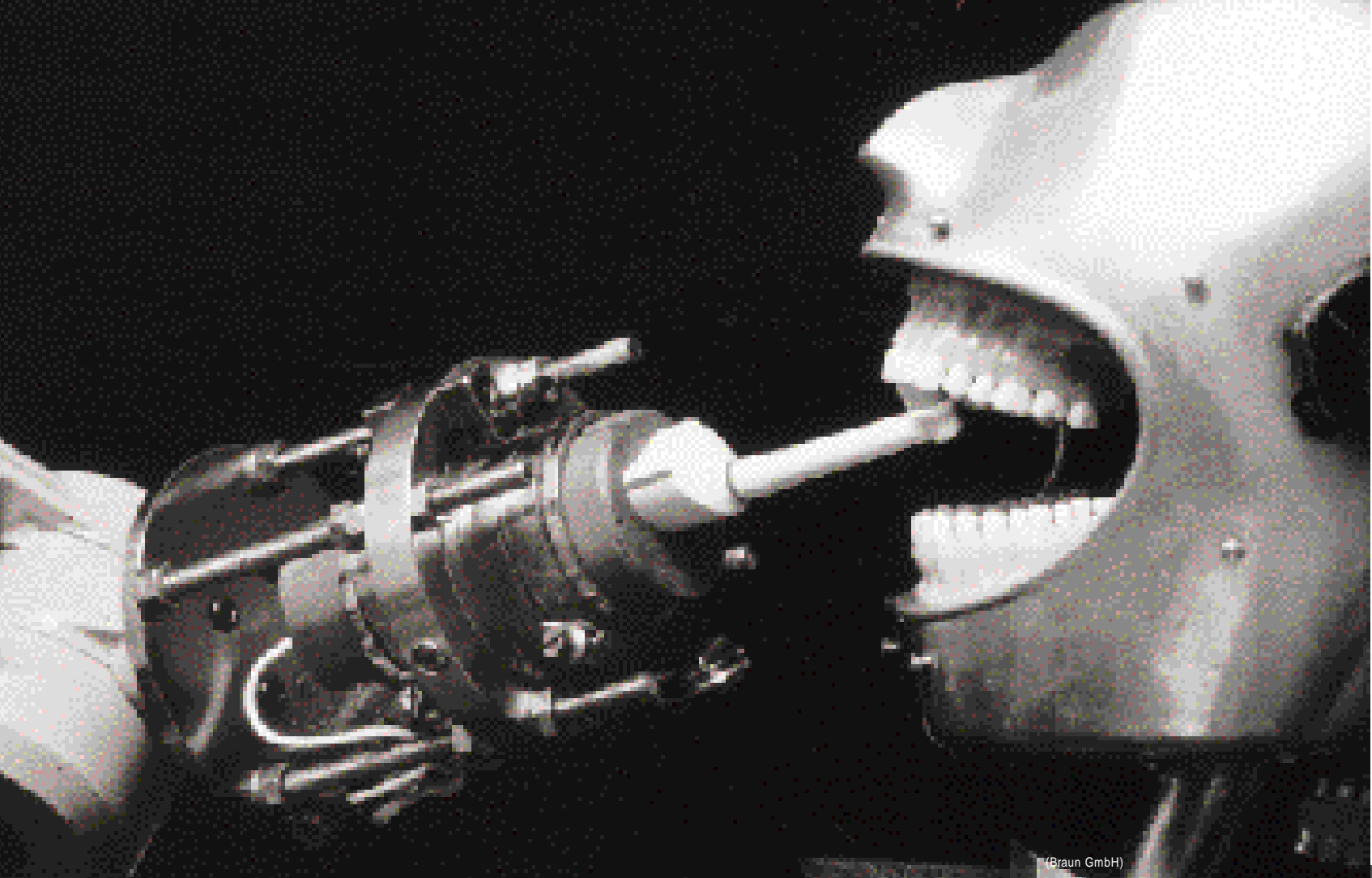


## Robot is Your Friend, Aibo by Sony

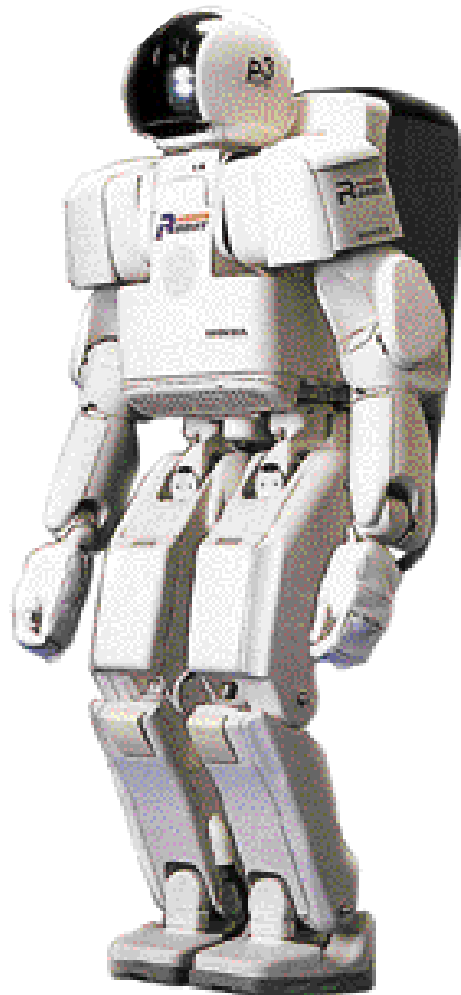
A robotic friend came into our lives. This robot is nothing like the cold, fearful robots in Sci-fi movies. It is cute, lovely, and capable of interacting with human beings and displaying various emotional expressions. It is Aibo manufactured by Sony Co., a two hundreds and fifty thousands Yen robot dog pooch without poop. Perhaps because he is lovely and friendly, and responds to the owner's stimuli and displays highly interactive and complex behavior, despite of its high price, this lovable unfurry pet is getting an over-whelming response. Sony sold the limited edition of Aibo in May and October of 1999, and January of this year, and the result was satisfactory beyond expectation. Although there are some negative criticism about its design and interface, this amazingly life-like dog seems to be soon replacing the real-life puppy in this millenium. This robotic pet will continuously rouse wild enthusiasm of the pet-lovers who cannot afford time or space, he is convenient and accessible. 🐕



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(Braun GmbH)



(本田)

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'P3'

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(Golem)

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## The Present and Future of Service Robots

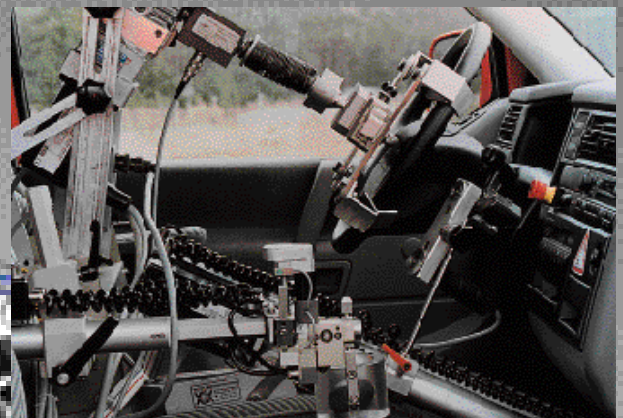
Cyborgs and robots are more than something that appears only in the 20 century science fiction. Unlike other animals, human beings have been acquiring means of supplementing their physical weakness since they started using tools. Man's instinct and survival techniques induced the creation of mobile dolls that resembled themselves, and as life sciences and technology develop more and more, these machines are increasingly replacing men in labour-intensive works.

The development of machine technology enabled the creation of various types of robots; sensor-equipped, self-operating vacuum that finds and cleans dust, mail-delivery robot which transfers documents in the office, robot-dog which doesn't require cleaning of dung or walking, robot which cleans drains regardless of foul smell, call-center robot which takes phone-calls without human presence, entertainment robot which never gets exhausted or displeased from dealing with millions of visitors. At the dawn of the 21st century, people are paying more attention to these types of devices that can automatically take care of various chores. ■

Source | designfo



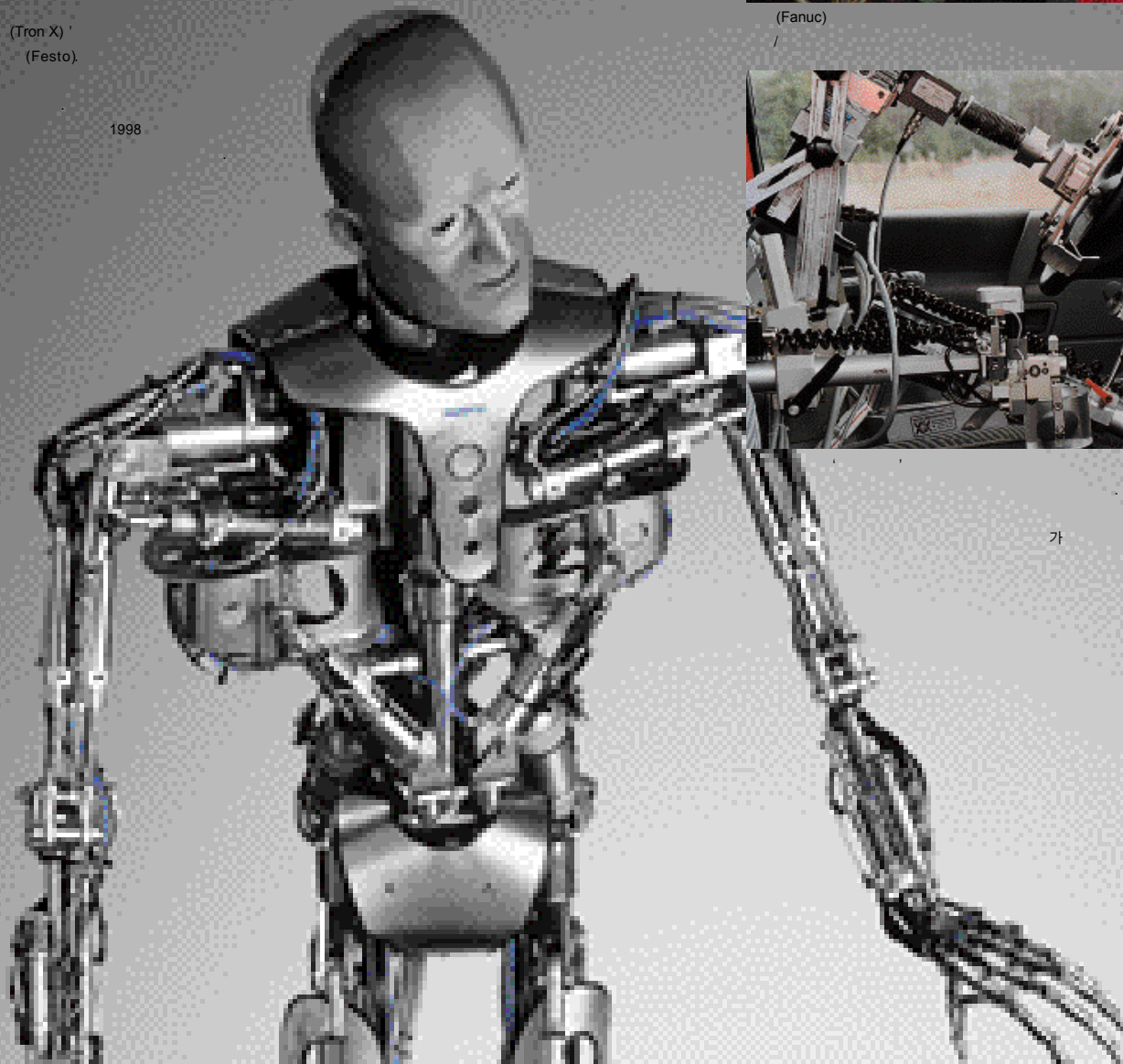
(Fanuc)

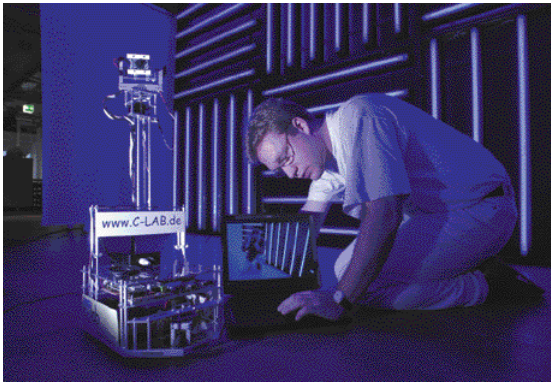


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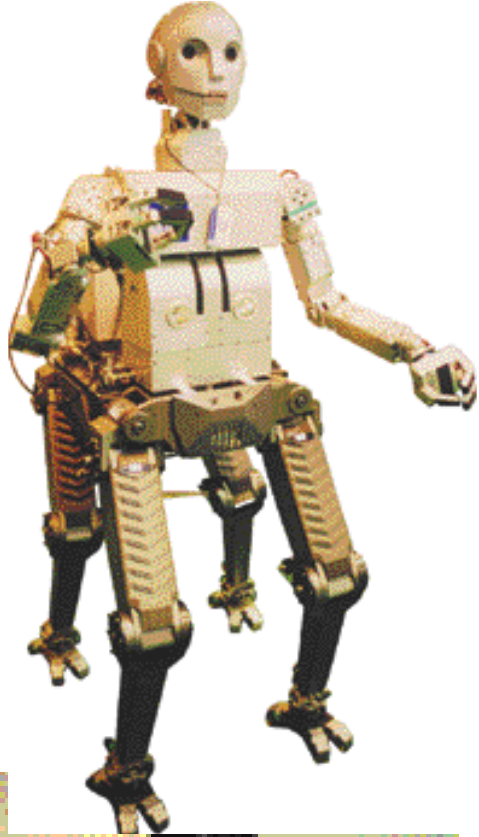
(Tron X)  
(Festo)

1998





'C-LAB'



'(Auto Mower)'

(Electrolux) [www.2electrolux.se](http://www.2electrolux.se)

1  
(KIST)  
(Centaur, 160cm, 150kg)  
,1999 .1994 5 80  
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(NASA)

'(Personal Saterlite Assistant)'

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Cye  
[www.personalrobots.com](http://www.personalrobots.com)

2020

(Fraunhofer - Gesellschaft) 1949  
(Joseph von Fraunhofer, 1787 - 1826)

47 9

가

(Zero Energy House) ;

(Iris)

2020

IPA (Institute for Manufacture Engineering & Automation)

가 | www.ipa.fhg.de

(designfo)

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| www.fhg.de



'(Mach-Wast : !).  
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'(Komm-Reint! : !)  
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'(Also-Gutt! : !)

MVCL (Mobile Vehicle Command Language)

(www.museumsstiftung.de)

(Ralph Kuenzler, kuenzler.reform@web.de)가

Realtime Framework

Robotics Toolbox

60cm

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12V

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(Care-O-Bot)

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가 . www.ipa.fhg.de



### Fraunhofer-Gesellschaft Research Center: Preparing and Developing for Future Industries of the Year 2020

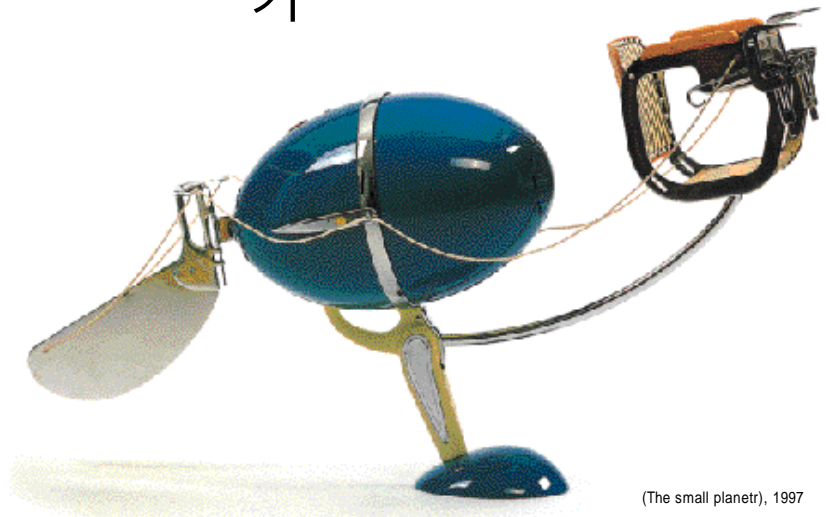
The Fraunhofer-Gesellschaft, taking its name from the German scholar Joseph von Fraunhofer (1787-1826) who was also a scientist, inventor and entrepreneur, was established in 1949. It has been expanded into an industrial technology research organization consisted of about 9000 staffs employed at 47 research establishments throughout Germany. The institute has international research centers all around the world including the United States, Malaysia, Singapore, and China, and has also been testing its tele-care systems in collaboration with the Ewha Women's University's medical school in Korea.

Under the contract with numerous nations, and industrial and service organizations, the Fraunhofer Institutes is involved in virtually all kinds of development work including the development of industrial technology, automobile technology, various applied materials, telemedicine system, office automation, high-tech communication and so on. Among the most noteworthy projects are the ones geared to the improvement of everyday life in the year 2020, such as the development of the chips which can be constructed in various shapes, the rechargeable high-energy battery, and the sensor which recognizes the composition of human irises like fingerprints.

The Fraunhofer Institute for Manufacturing Engineering and Automation (IPA) in Stuttgart has carried out researches and developments of various types of robots. and committed to its roles as an innovative driving force in the field of robotics.

Fraunhofer-Gesellschaft | www.fhg.de The Fraunhofer Institute in Stuttgart | www.ipa.fhg.de Source/ Designfo

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(The small planetr), 1997



(Ralf Kuenzler) | 1960  
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(Kunstakademie, Stuttgart)

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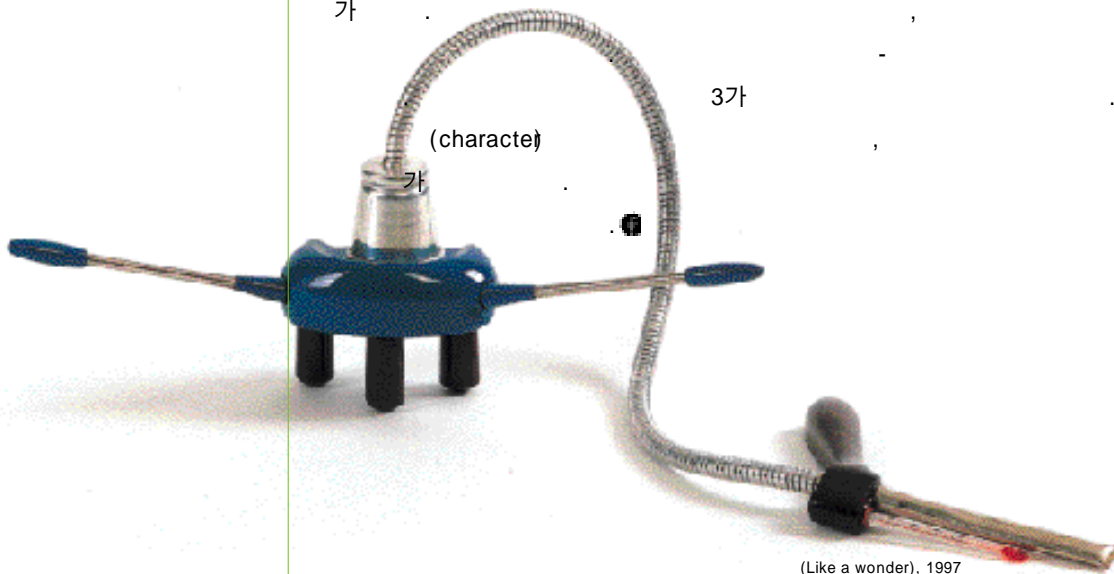
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(characte)

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(Like a wonder), 1997