Wernher von Braun
centro de pesquisas avançadas

Resultados da Lei de Informatica
Projetos do Centro von Braun

Dario S. Thober

Diretor, Centro von Braun

thober@vonbraunlabs.org

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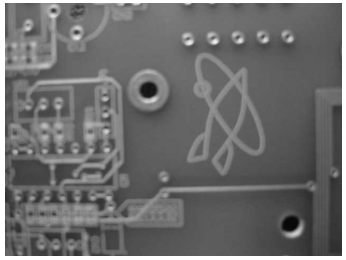
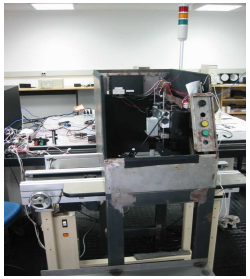
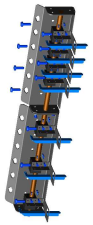
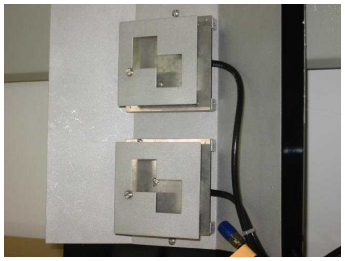
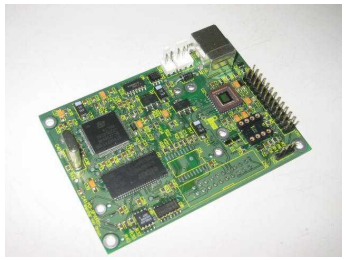
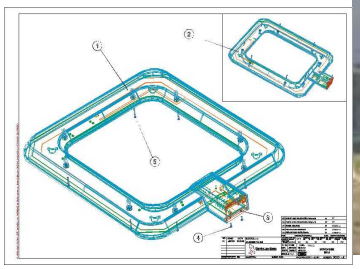


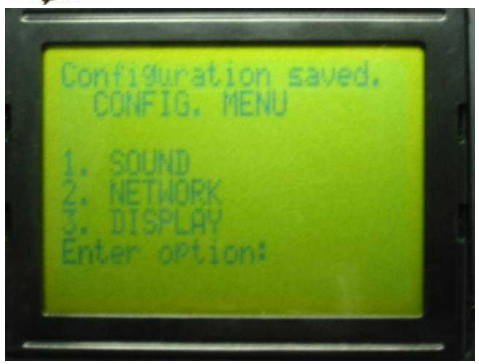


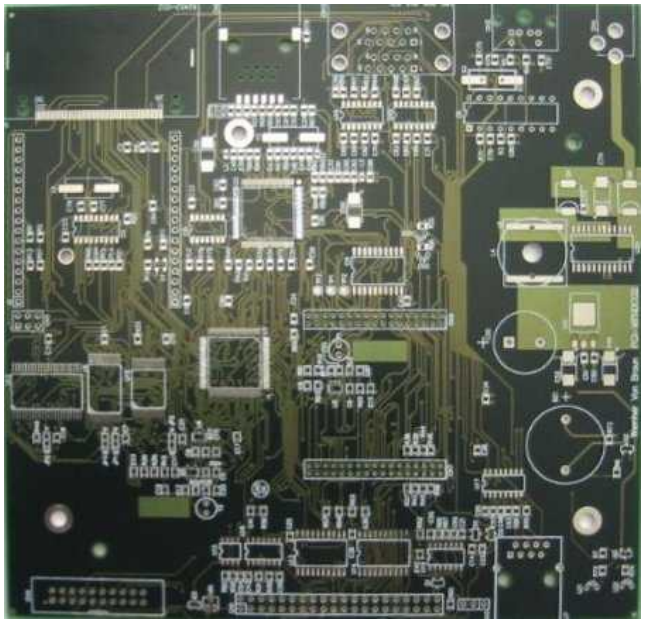


Low Cost PC



PC de baixo custo para uso Industrial com conexao sem-fio



Low Cost PC

tupimirin®

SANMINA-SCI

SEMP TOSHIBA

- Plataforma movel (com tecnologia sem-fio)
- Sistema de identificacao de hardware (Made in Brazil) SO Linux
- Sistema de identificacao de servicos IP no proprio aparelho

Low Cost PC

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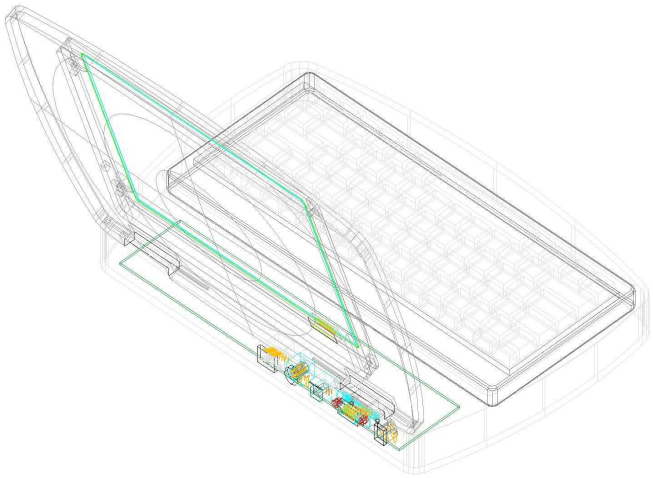
SEMP TOSHIBA



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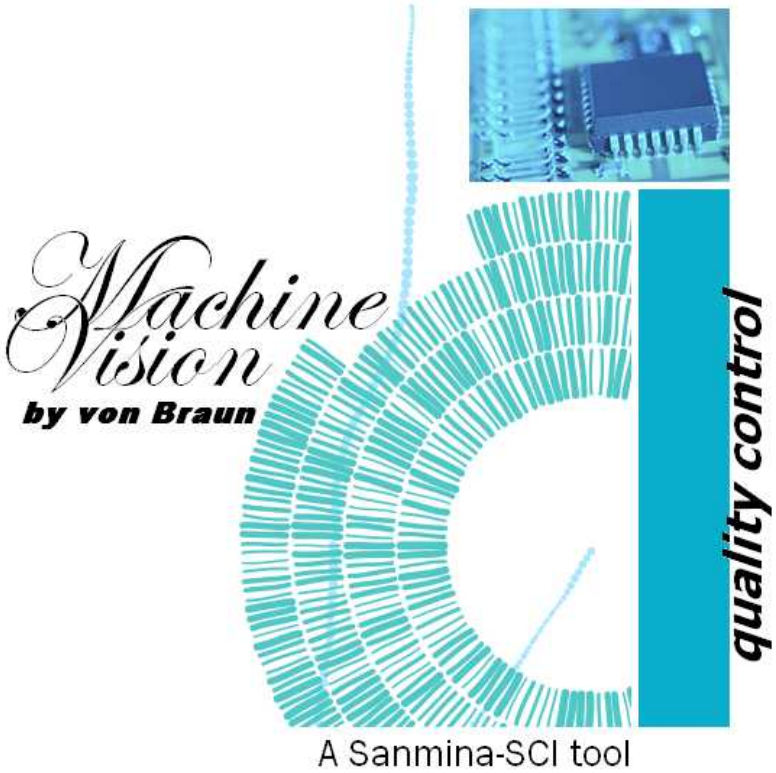
Controle remoto de sistemas de TI

Telefone inteligente que monitora salas de TI via rede Bluetooth recuperando processos e notificando falhas

SANMINA-SCI

Machine Vision



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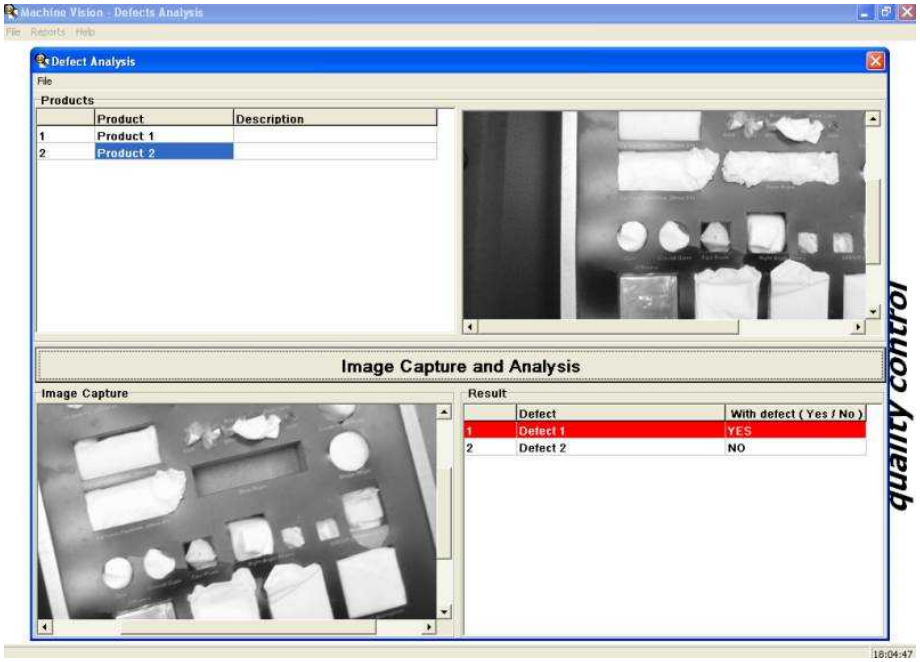
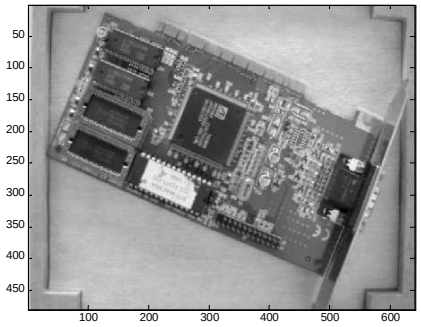
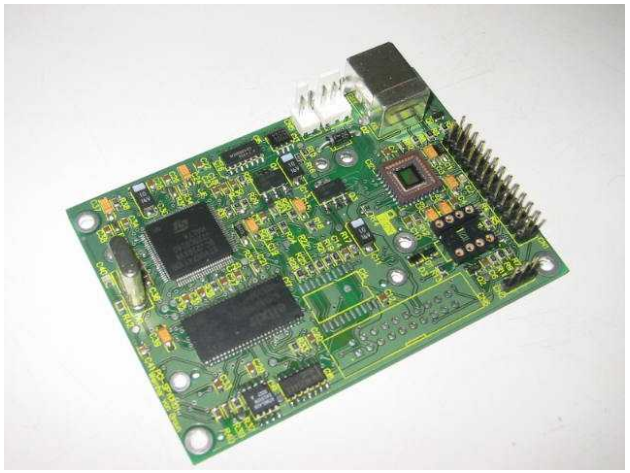
Software inteligente de inspecao por imagens automatica. Desenvolvimento da solucao de hardware e software completos.

Machine Vision

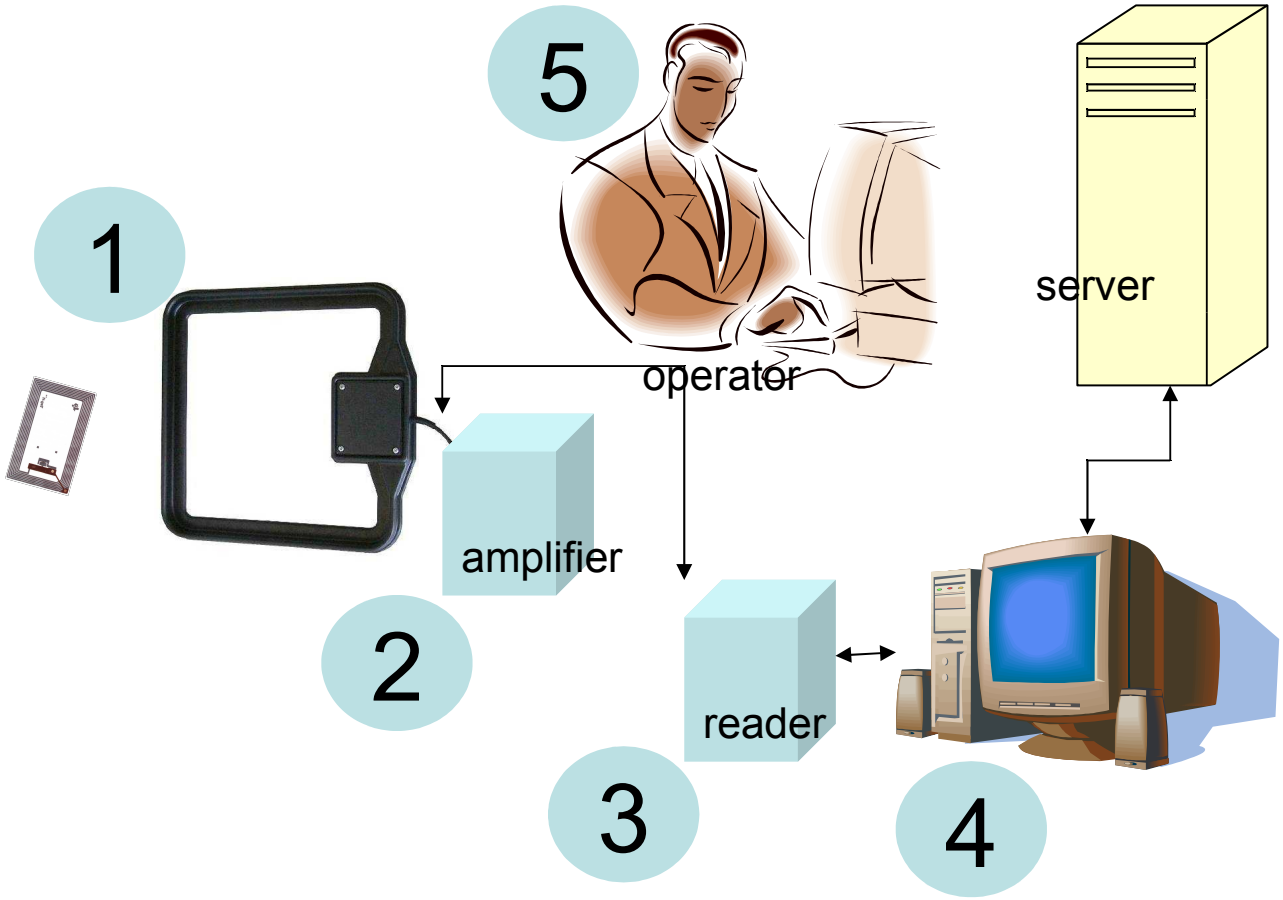






SANMINA-SCI

RFID Technology



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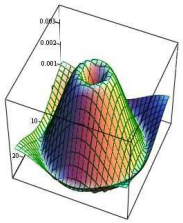
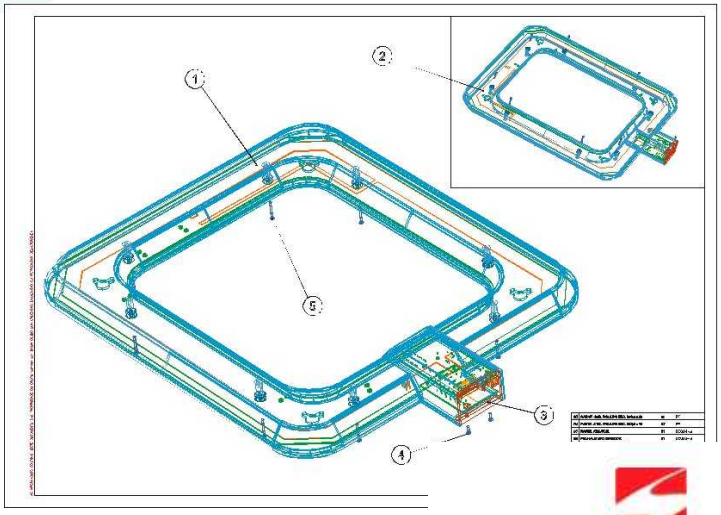
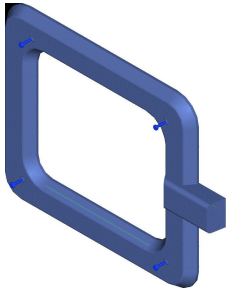
RFID Technology







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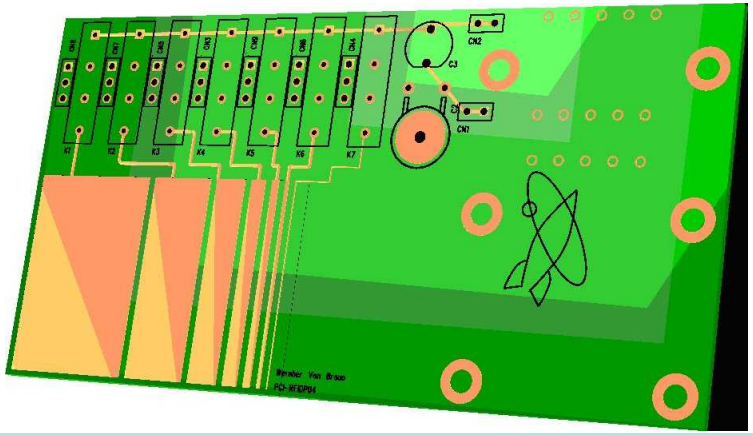

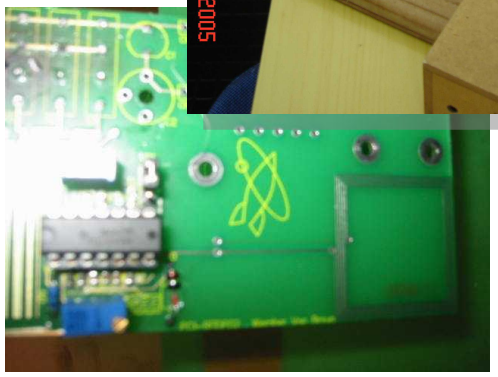

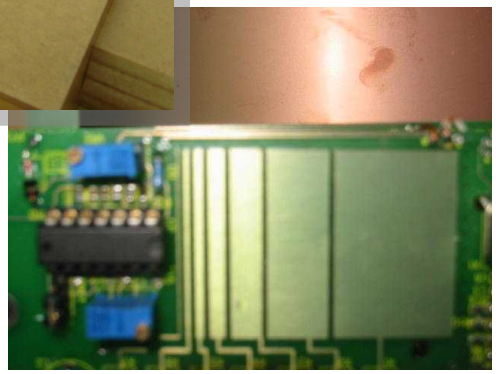

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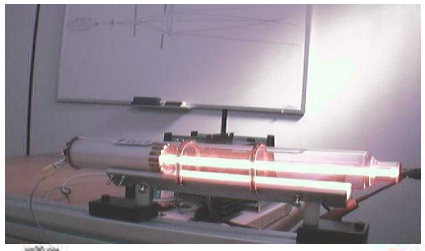
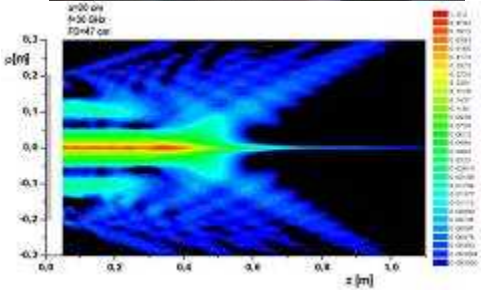
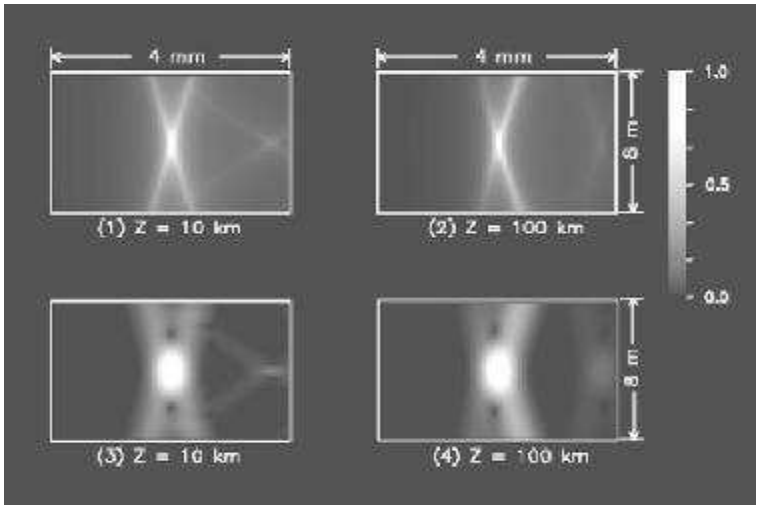
Project X

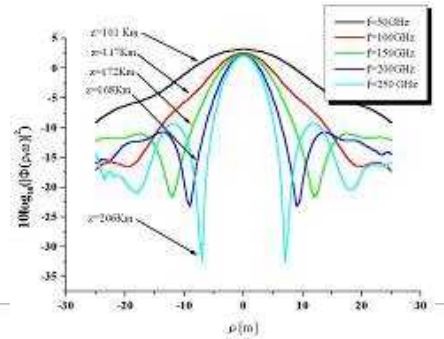
Developed by
von Braun for

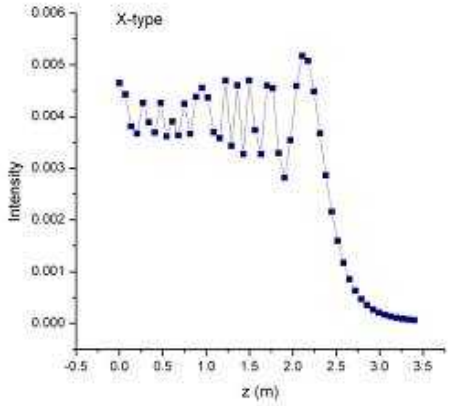
MOTOROLA



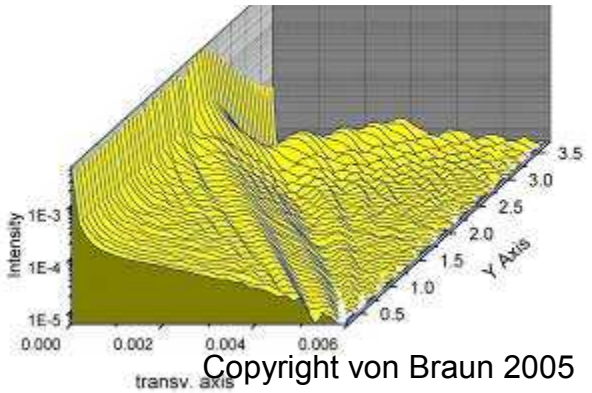


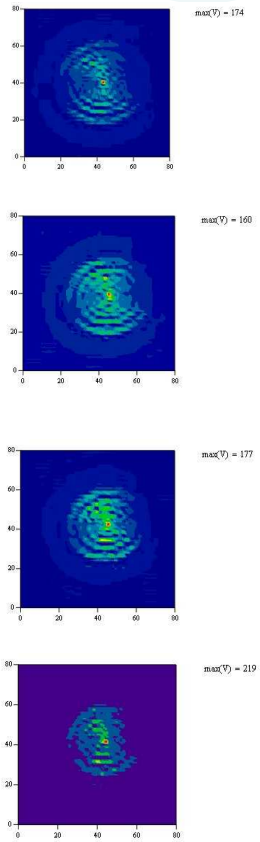




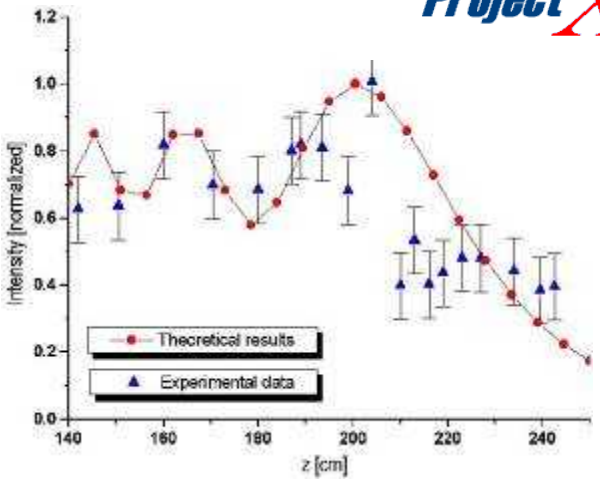


(a) X-wave propagation (simulation) – the core-center or X central point does not looses its energy until propagation reaches the programmed field-depth. (b) X-wave behavior along the axis of propagation. Von Braun has developed special Software for this simulations since no commercial solution was able to show such results – von Braun approach was to use Maxwell-Sommerfeld's exact equations in order to derive finite-element simulation codes.





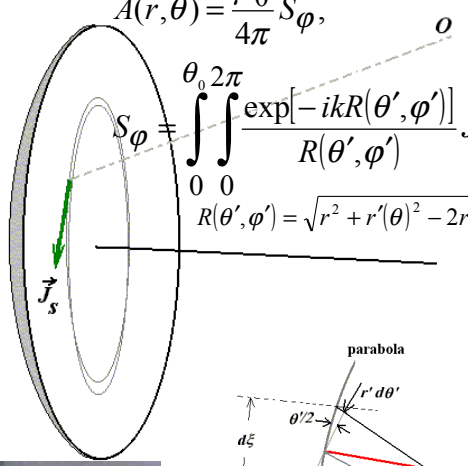
Project X

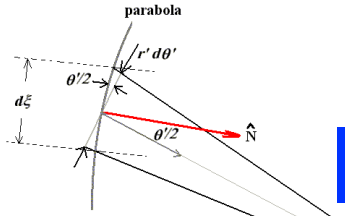


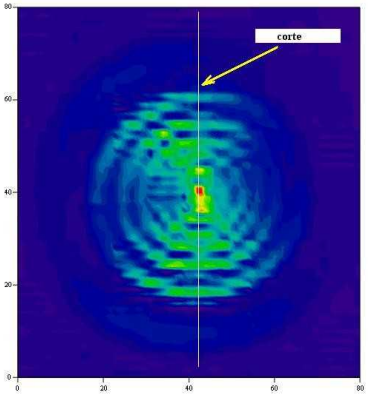
$$A(r,\theta) = \frac{\mu_0}{4\pi} S_\varphi,$$

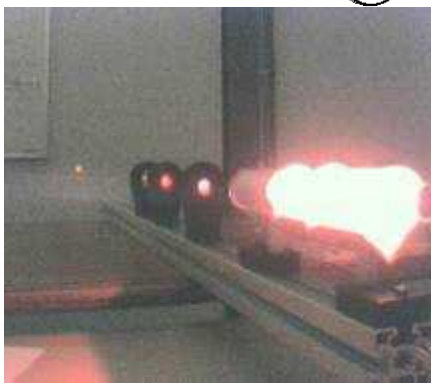
$$S_\varphi = \int_0^{\theta_0} \int_0^{2\pi} \frac{\exp[-ikR(\theta',\varphi')]}{R(\theta',\varphi')} J_S(\theta',\varphi') \frac{r(\theta')^2 \operatorname{sen}\theta' d\varphi' d\theta'}{\cos(\theta'/2)},$$

$$R(\theta',\varphi') = \sqrt{r^2 + r'(\theta)^2 - 2rr'(\theta)(\operatorname{sen}\theta \operatorname{sen}\theta' \cos\varphi' + \cos\theta' \cos\theta)}$$









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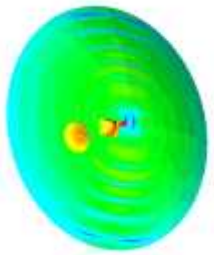

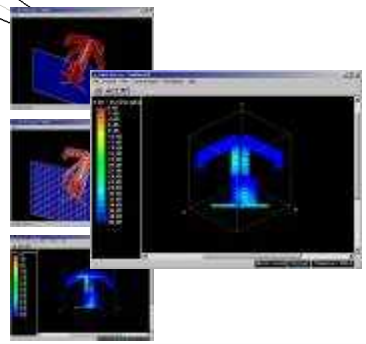

Analise de imagens

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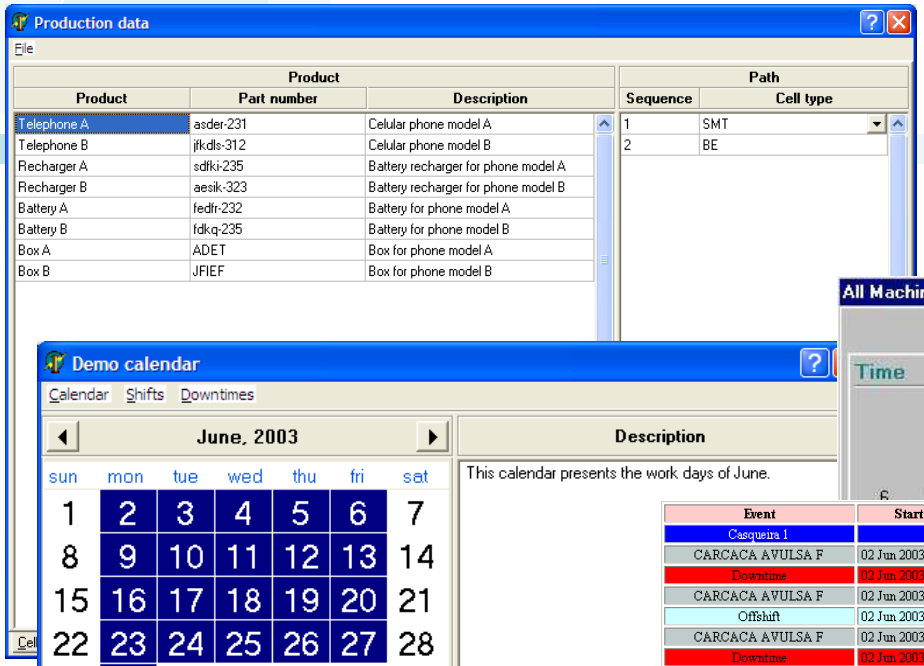
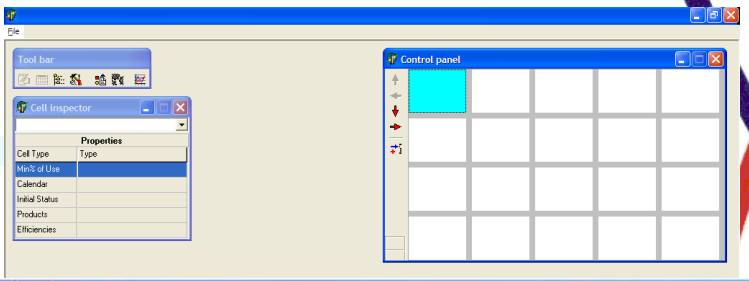
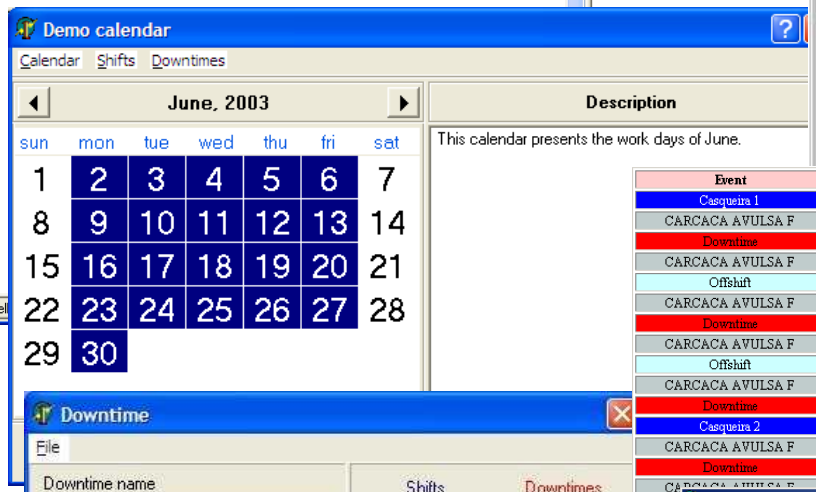
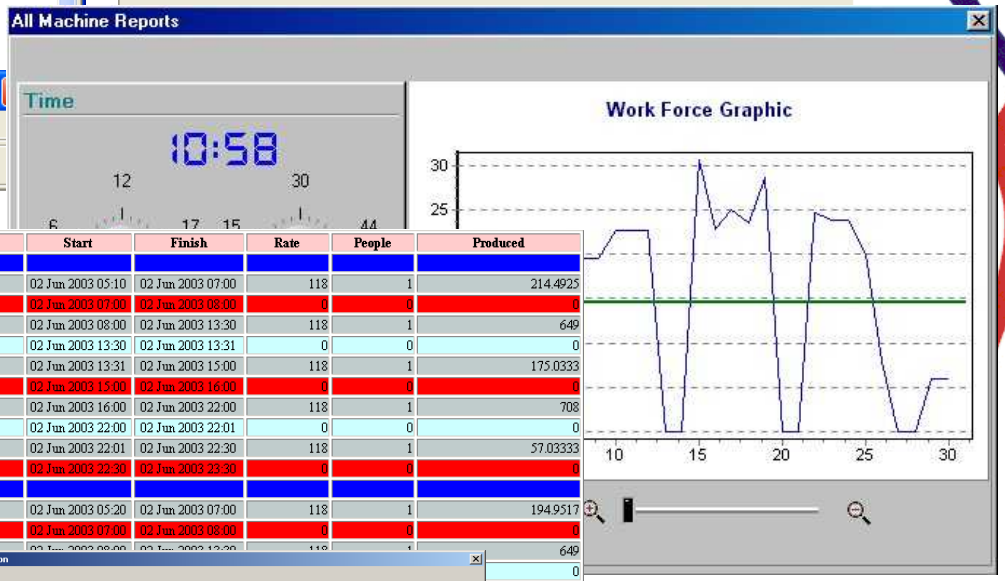
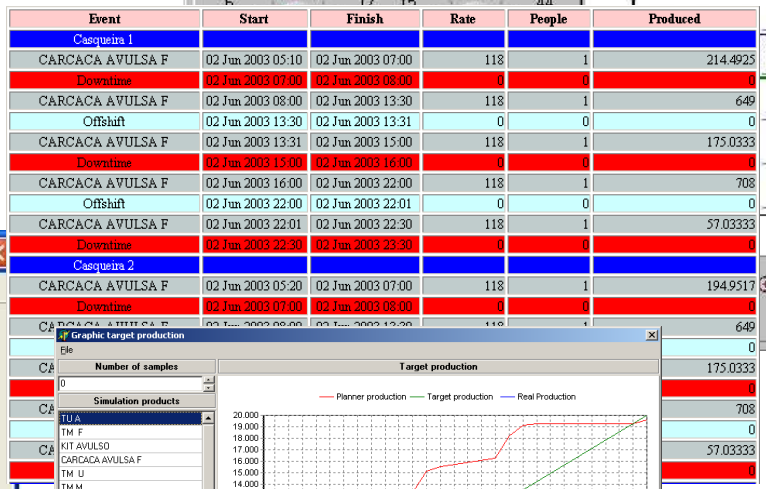


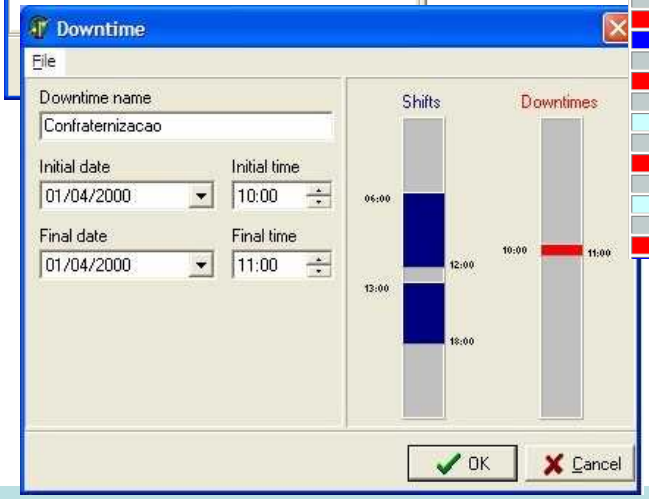


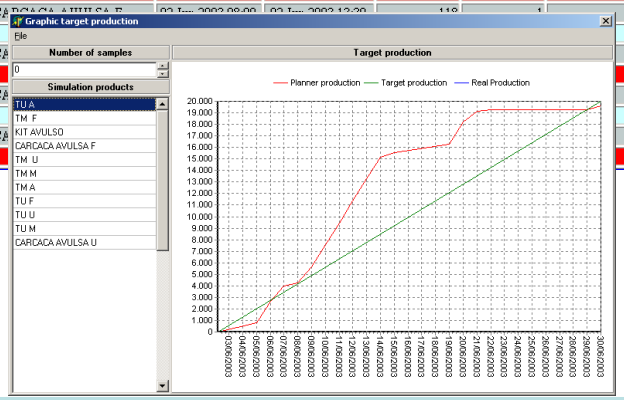






Event	Start	Finish	Rate	People	Produced
Casqueira 1					
CARCACA AVULSA F	02 Jun 2003 05:10	02 Jun 2003 07:00	118	1	214.4925
Downtime	02 Jun 2003 07:00	02 Jun 2003 08:00	0	0	0
CARCACA AVULSA F	02 Jun 2003 08:00	02 Jun 2003 13:30	118	1	649
Offshift	02 Jun 2003 13:30	02 Jun 2003 13:31	0	0	0
CARCACA AVULSA F	02 Jun 2003 13:31	02 Jun 2003 15:00	118	1	175.0333
Downtime	02 Jun 2003 15:00	02 Jun 2003 16:00	0	0	0
CARCACA AVULSA F	02 Jun 2003 16:00	02 Jun 2003 22:00	118	1	708
Offshift	02 Jun 2003 22:00	02 Jun 2003 22:01	0	0	0
CARCACA AVULSA F	02 Jun 2003 22:01	02 Jun 2003 22:30	118	1	57.03333
Downtime	02 Jun 2003 22:30	02 Jun 2003 23:30	0	0	0
Casqueira 2					
CARCACA AVULSA F	02 Jun 2003 05:20	02 Jun 2003 07:00	118	1	194.9517
Downtime	02 Jun 2003 07:00	02 Jun 2003 08:00	0	0	0





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CELESTICA

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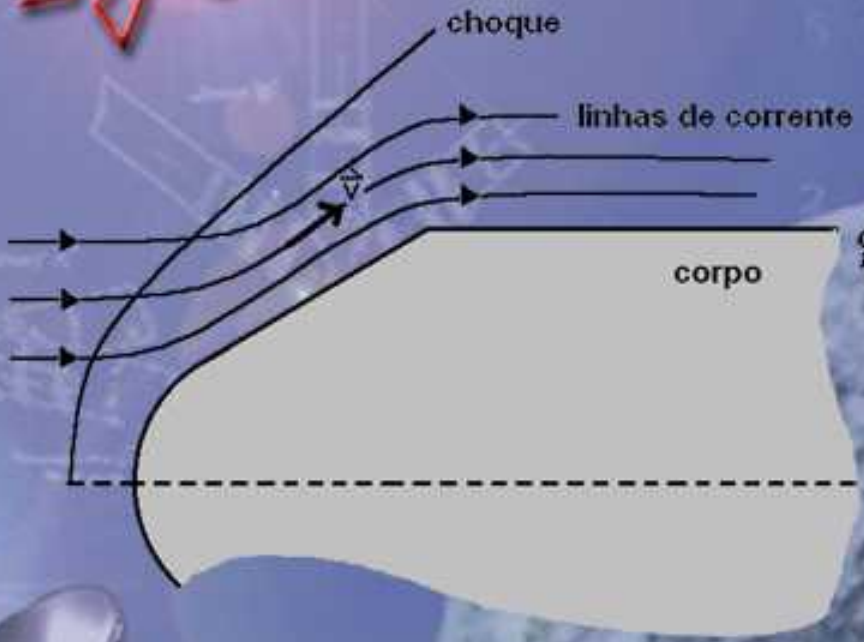
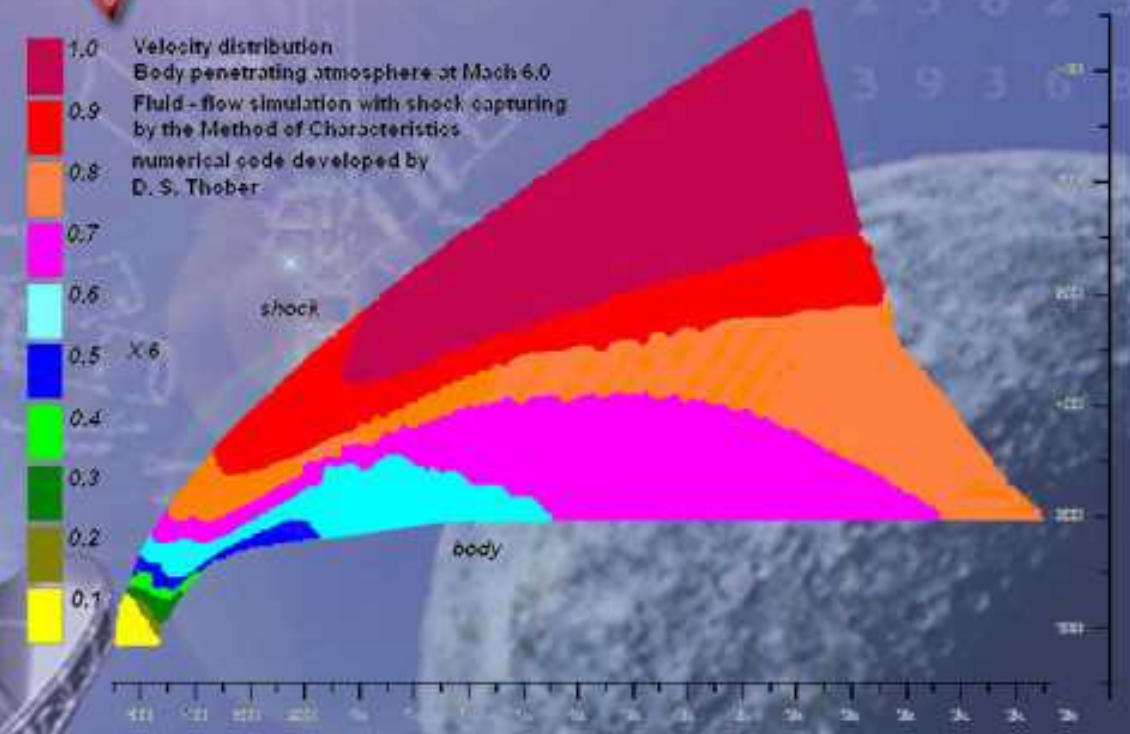
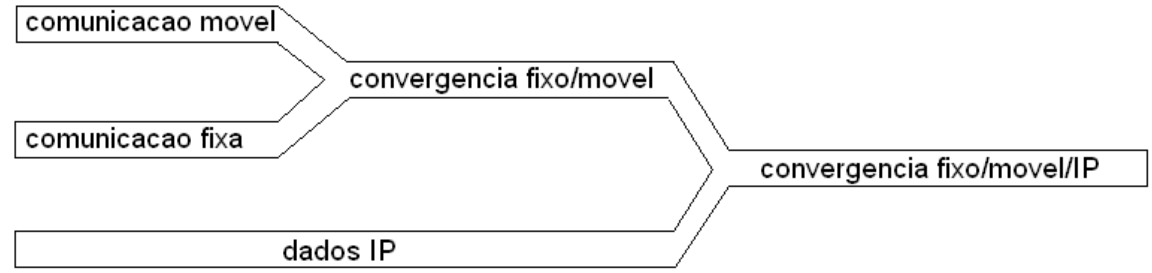


Wernher von Braun
centro de pesquisas avançadas



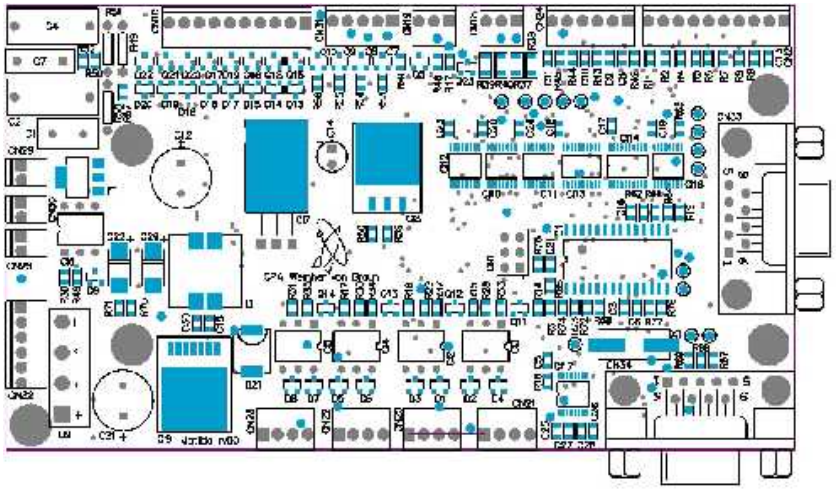
Convergencia



Interconexão entre a telefonia celular e fixa: os usuários de smart-phones terão a capacidade de fazer ligações locais quando dentro da área de atuação do sistema. Sendo um access-point Bluetooth, o usuário evita utilizar os meios de comunicação celular enquanto próximo a uma dessas unidades

Convergencia

CELESTICA



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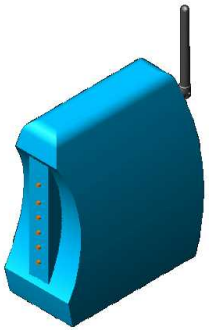
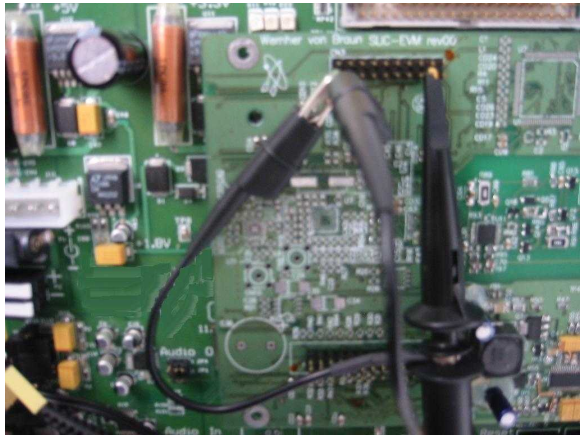
Voice over IP

SEMP TOSHIBA





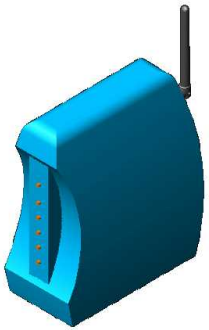
VoIP

Telefone VoIP desenvolvido sobre plataformas de baixo custo com BOM de $25.

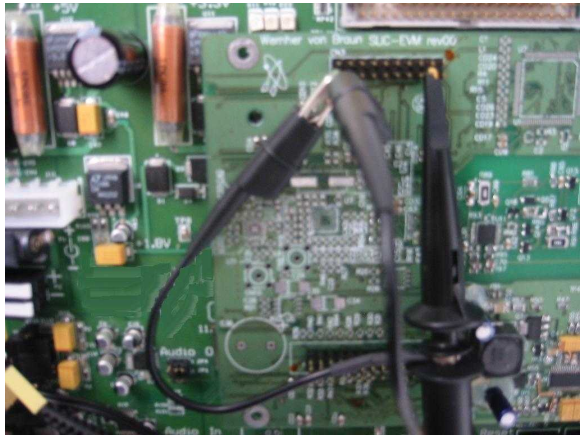
Plataforma de Referencia, libs para SO e aplicacoes para servico Plug and Play desenvolvidos durante o projeto.

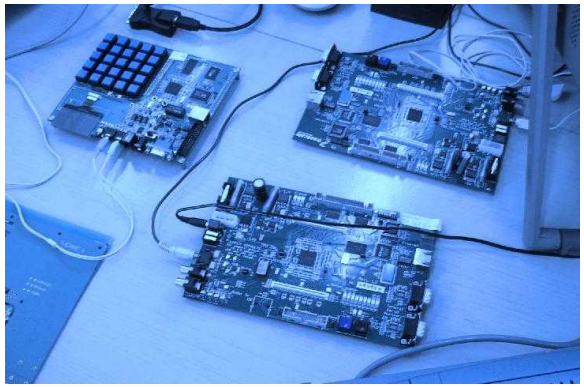
Voice over IP

SEMP TOSHIBA



SuperVoIP®

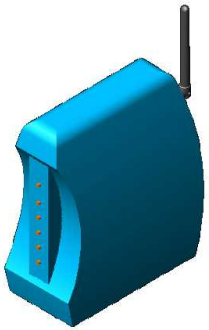




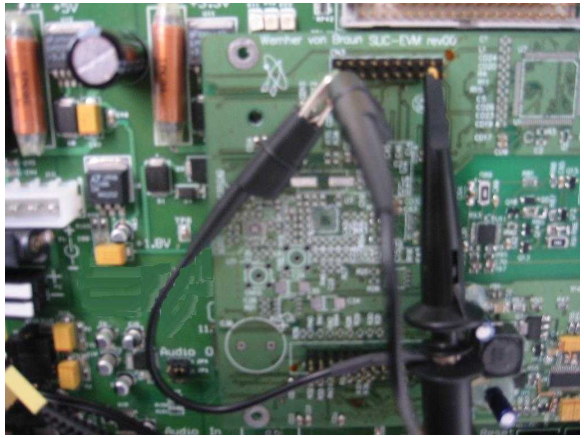
Versoes ATA, SIP Phone e convergencia digital.

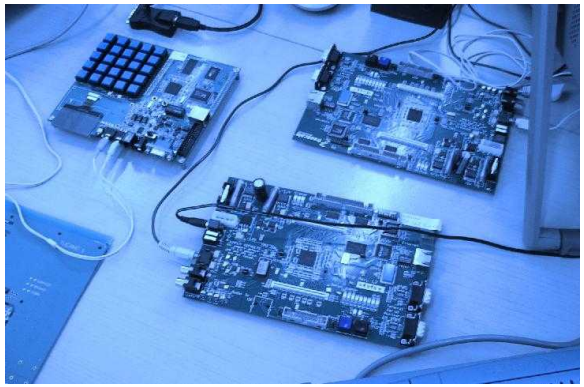
Voice over IP

SEMP TOSHIBA



SuperVoIP®

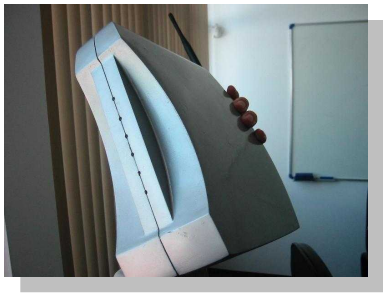




Versoes ATA, SIP Phone e **convergencia digital**.

freescale semiconductor

Voice over IP



SuperVoIP®

Platform

SEMP TOSHIBA

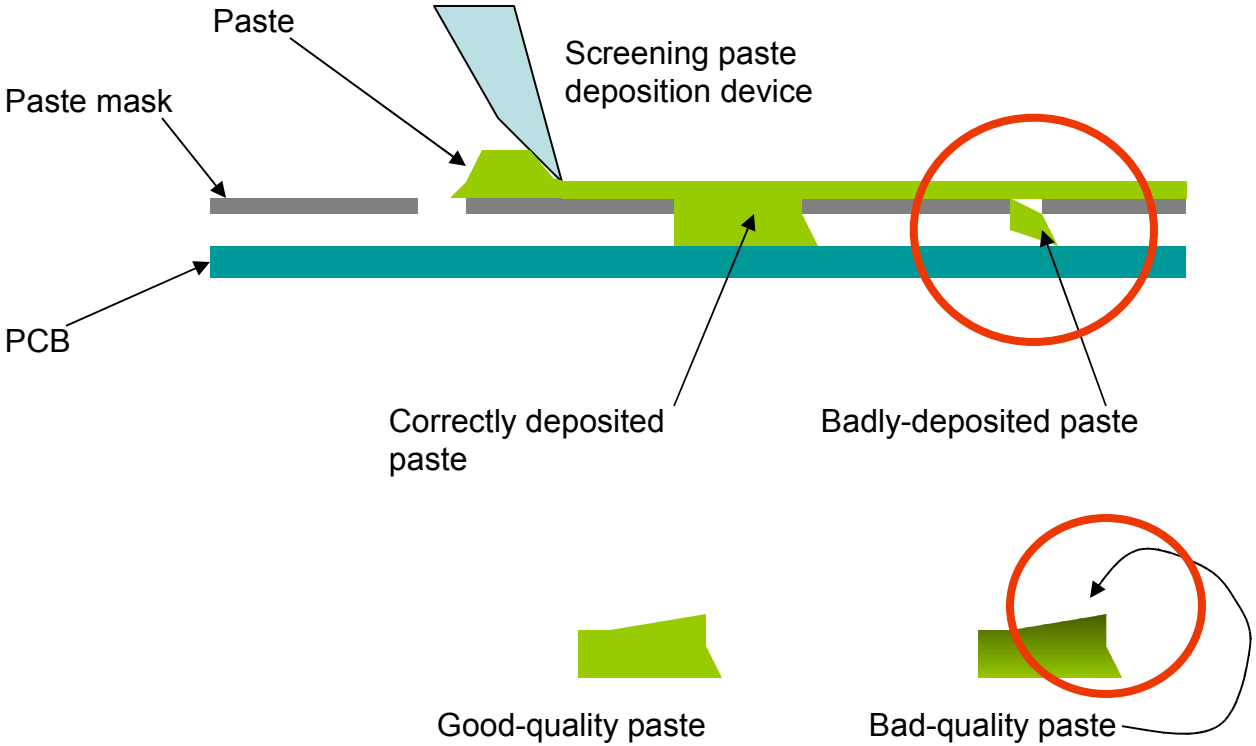
SANMINA-SCI

CELESTICA

- Analog Telephone Adaptor and SIP Phone versions
- Remote monitoring (via cell-phone) with 8 IP cameras
- SMS and email messages
- PSTN / Mobile convergence via Bluetooth and WiFi
- Secure connection to the Service Provider
- Embedded user service identification module

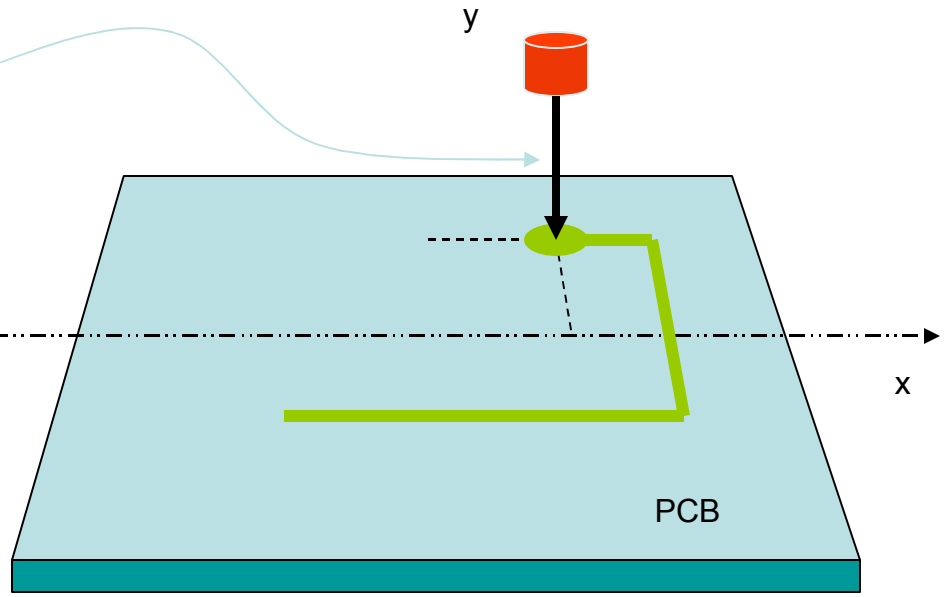
freescale semiconductor

Automated Optical Inspection



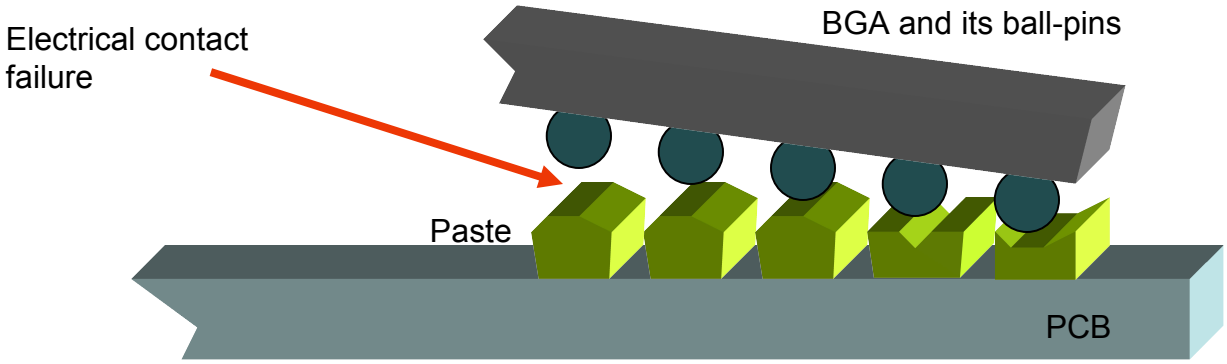
Automated Optical Inspection

Component placement on the PCB suffers from deviations caused by many different mechanical factors (originated at past deposition going through SMD and BGA placers).



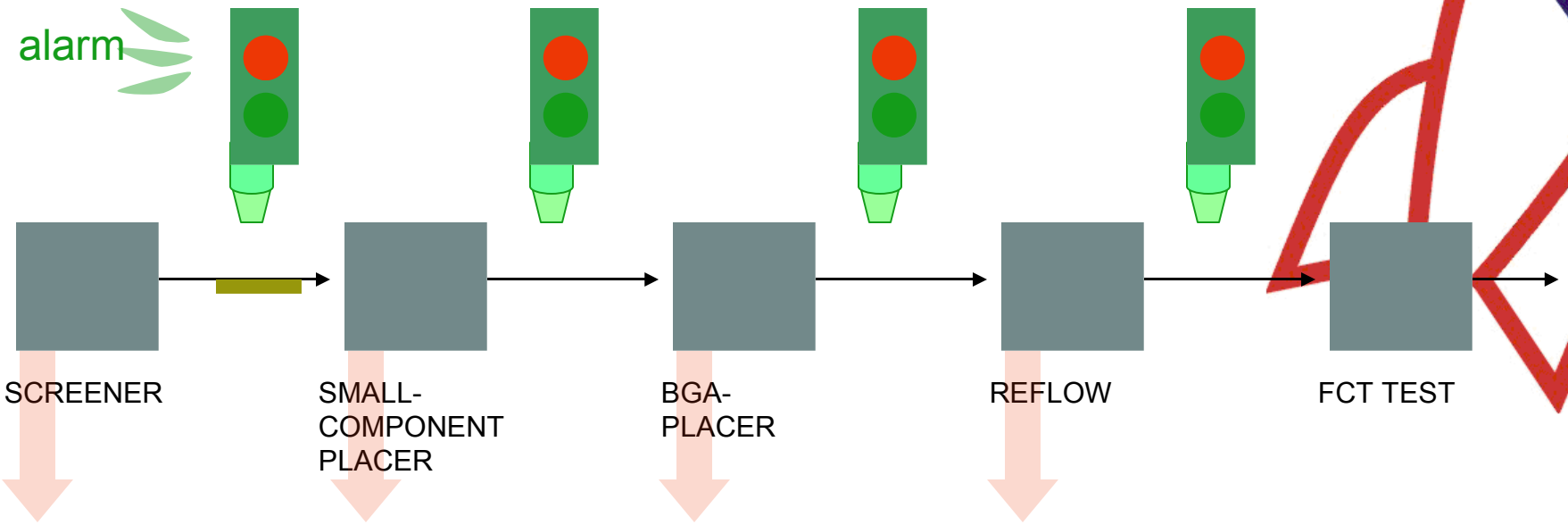
Automated Optical Inspection

The other aspect of interest is the 3-D bad-positioning that happens when components are not correctly oriented relative to the PCB underneath (tomb-stone defects).



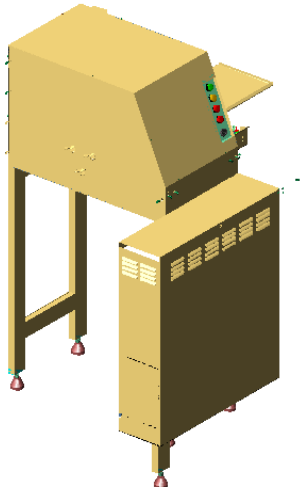
An innovative approach to track components over the board in a three-dimensional space is to be implemented, allowing the determination of the relative positioning between the PCB and the BGA component

Automated Optical Inspection

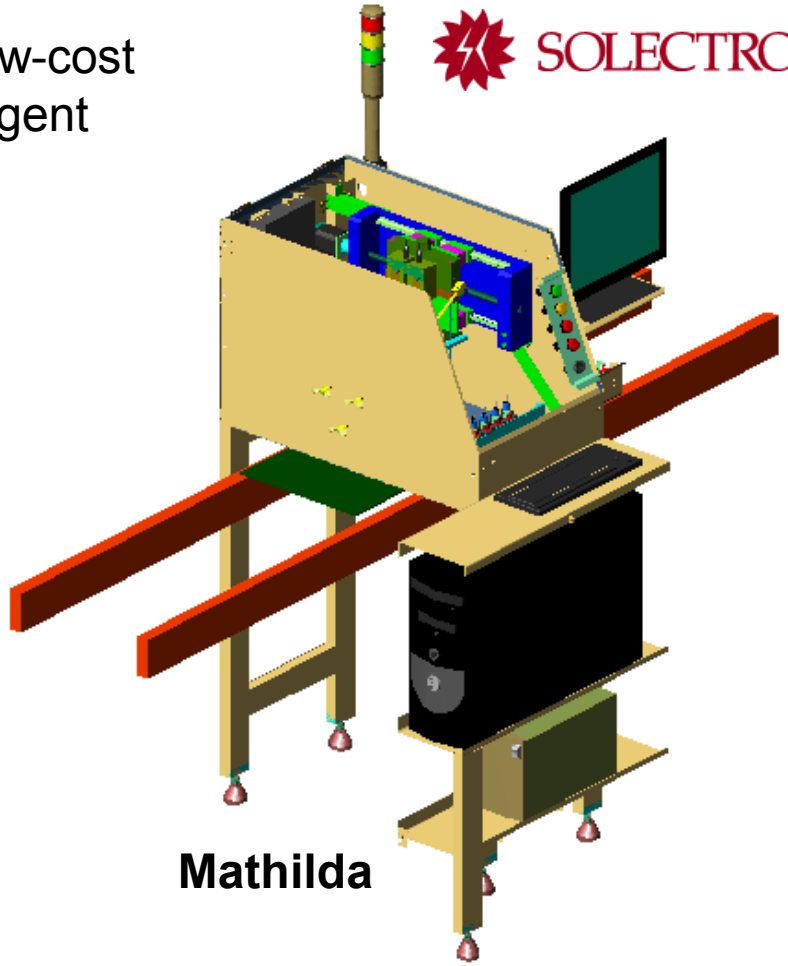


Automated Optical Inspection

An AOI based on low-cost hardware and intelligent software approach

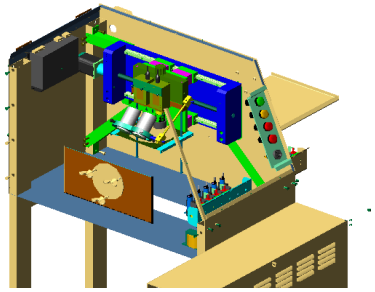


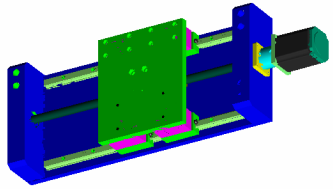
SOLECTRON

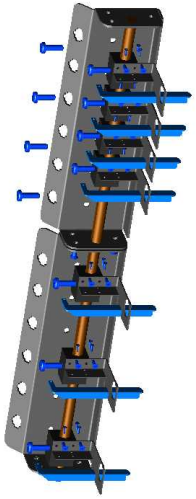


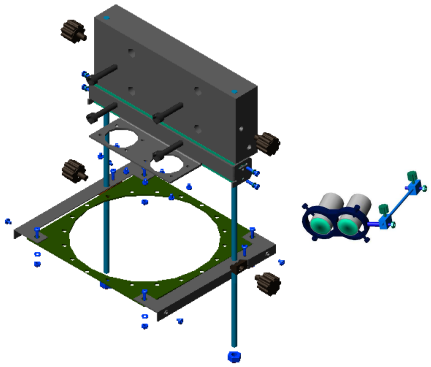
Mathilda

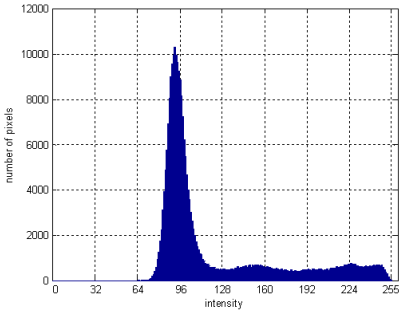
Automated Optical Inspection

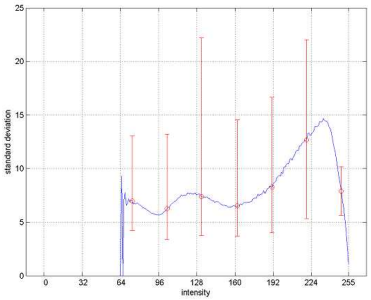




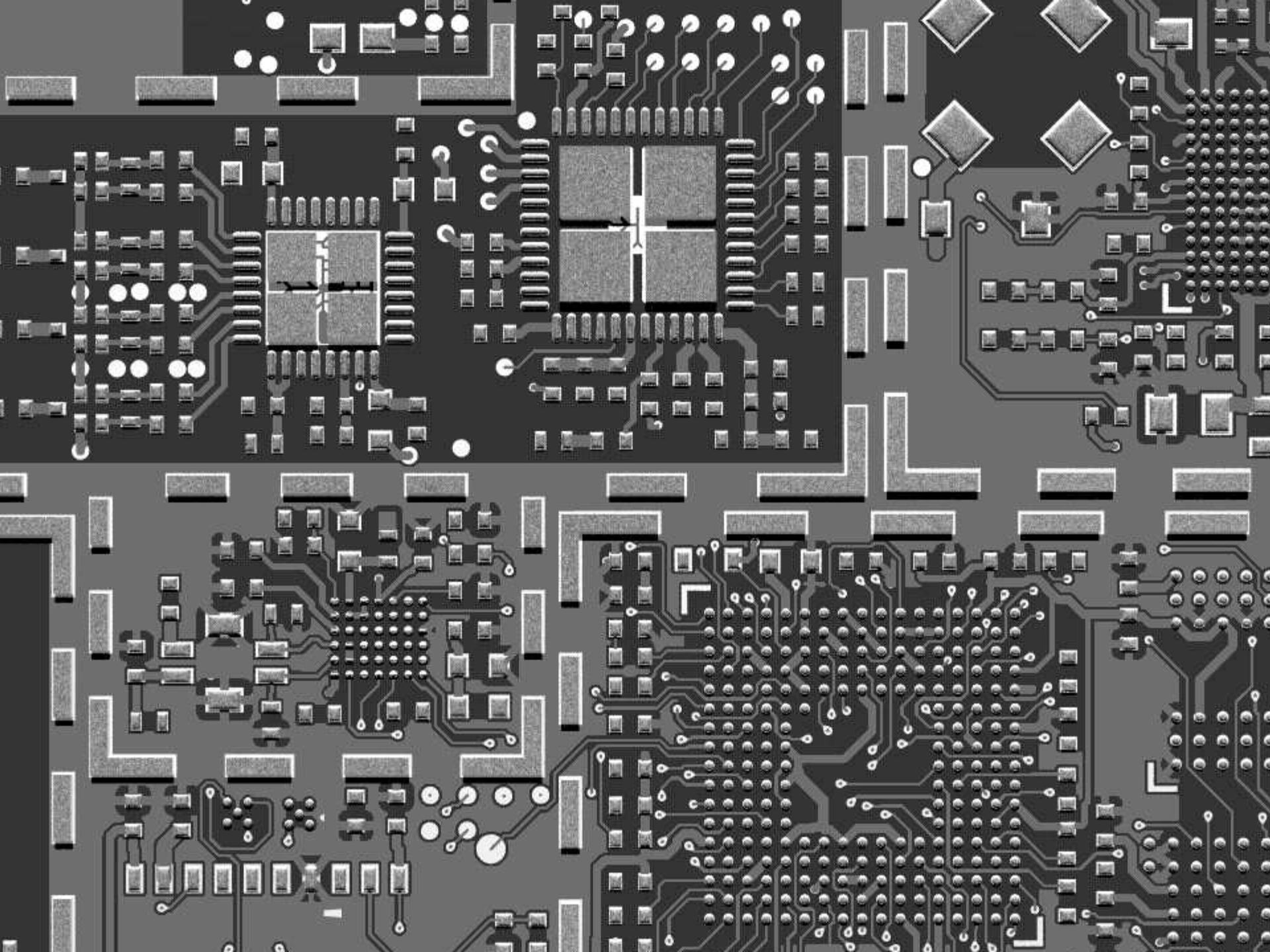




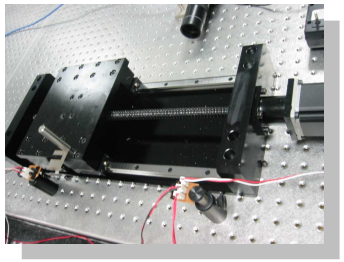


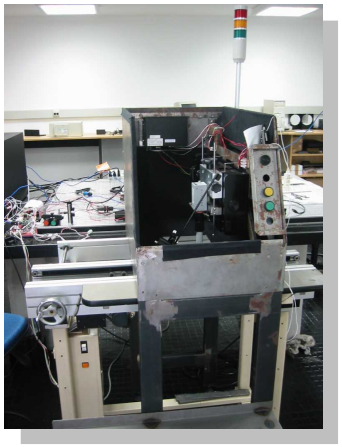


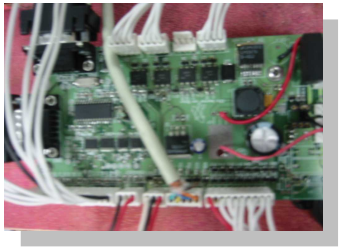
SOLECTRON



Automated Optical Inspection





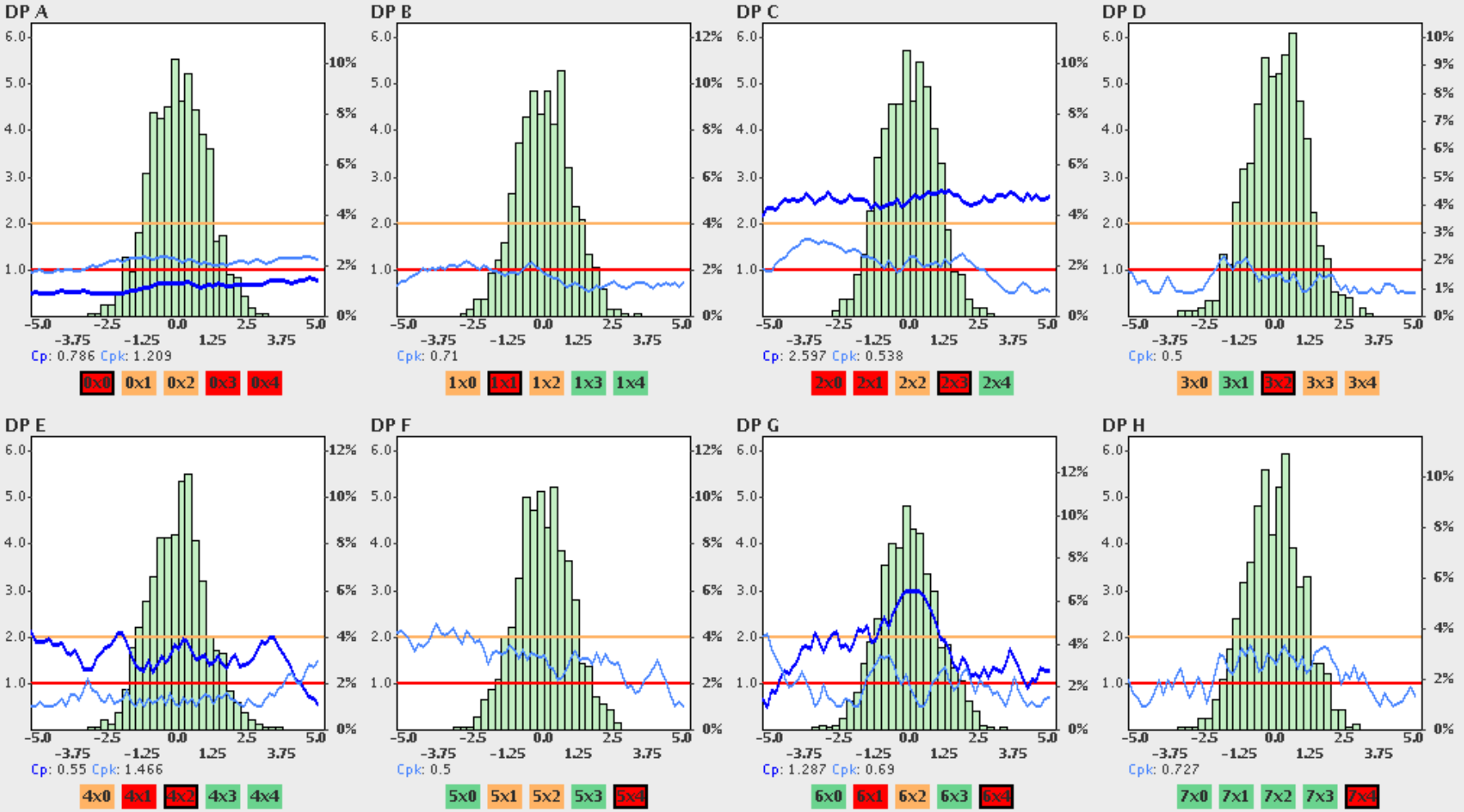


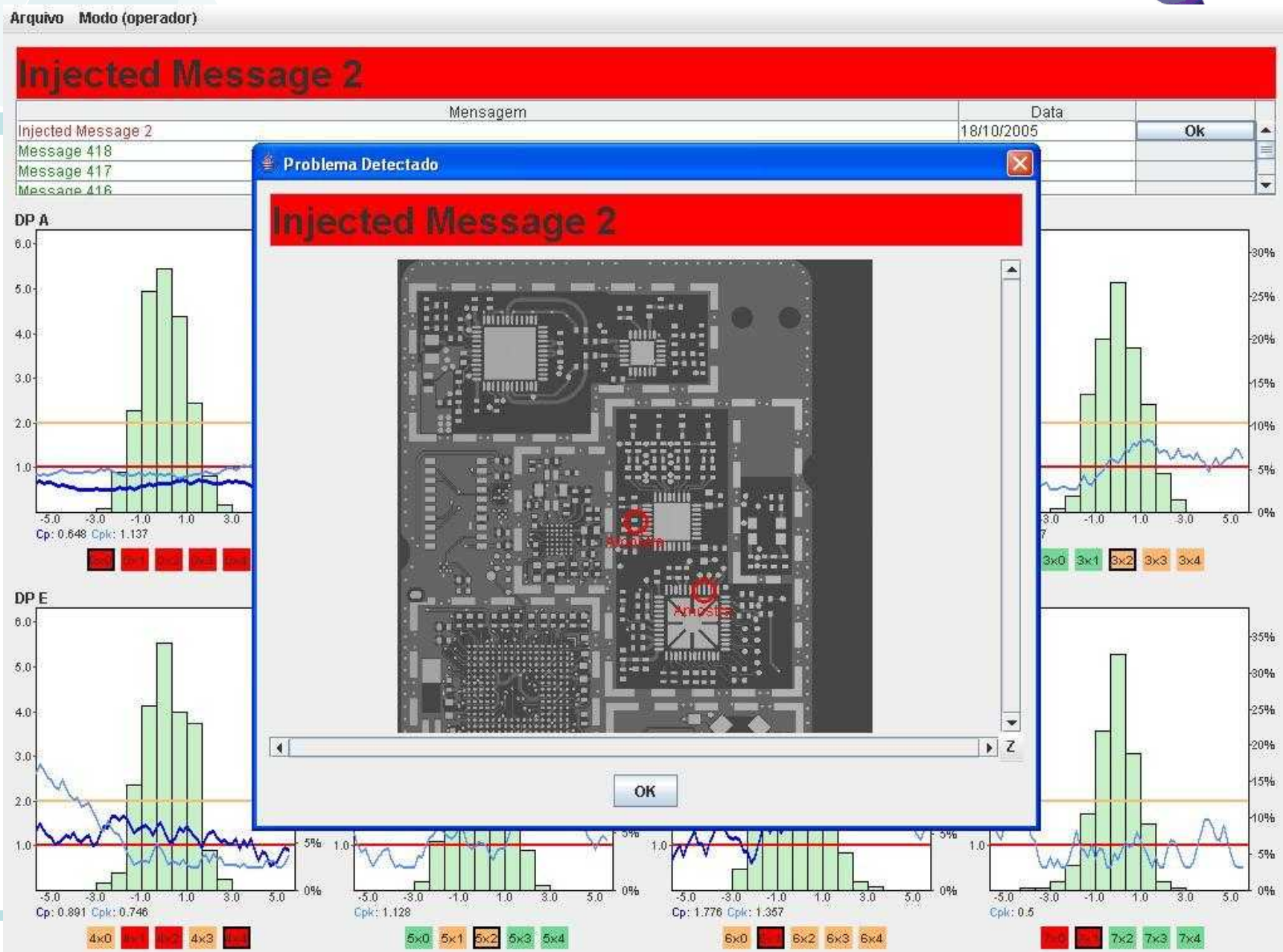
SOLECTRON

Arquivo Modo (operador)

Message 118

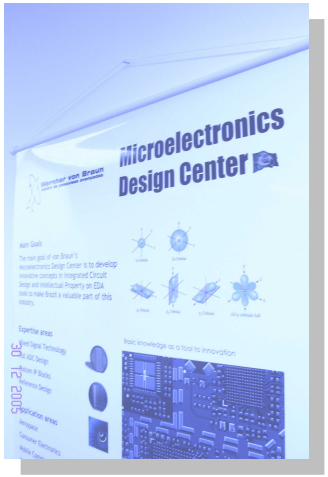
Mensagem	Date	
Message 118	Oct 18, 2005	
Message 117	Oct 18, 2005	
Message 116	Oct 18, 2005	
Injected Message 24	Oct 18, 2005	Ok




Arquivo Modo (operador)
Injected Message 2
Mensagem
Data
Injected Message 2
18/10/2005
Ok
Message 418
Message 417
Message 416
Problema Detectado
Injected Message 2
OK
DP A
DP E
Cp: 0.648 Cpk: 1.137
Cp: 0.891 Cpk: 0.746
Cpk: 1.128
Cp: 1.776 Cpk: 1.357
Cpk: 0.5

Microeletronica

Wernher von Braun
centro de pesquisas avançadas

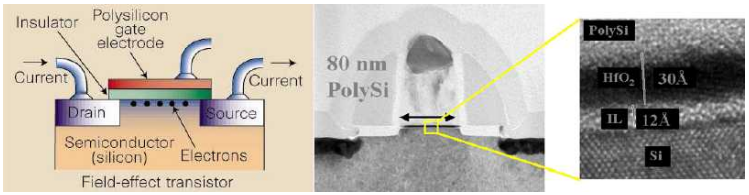


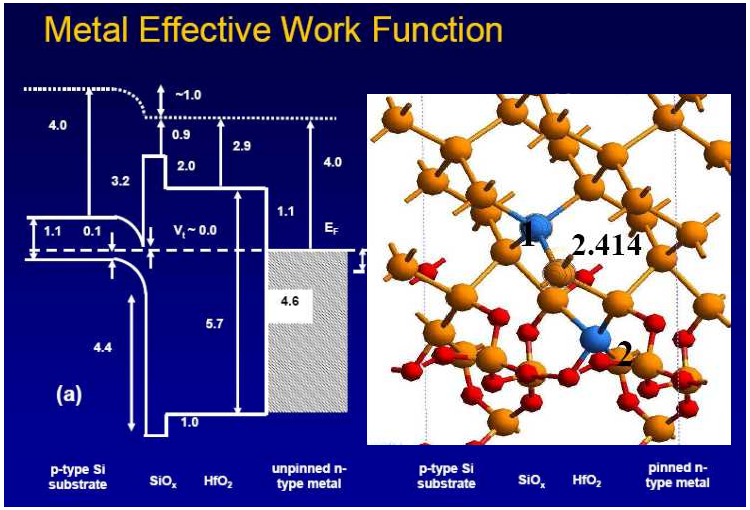
SEMP TOSHIBA

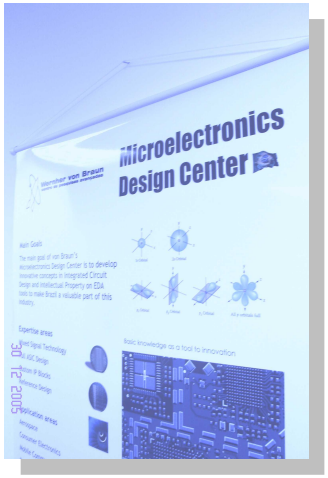
The main goal of the **v**on **B**raun **D**esign **C**enter is to develop specific knowledge in Custom IC design and IP blocks, plus the research and development of tools for IC design tools.

The design center has now all the capacity to perform mixed-signal design

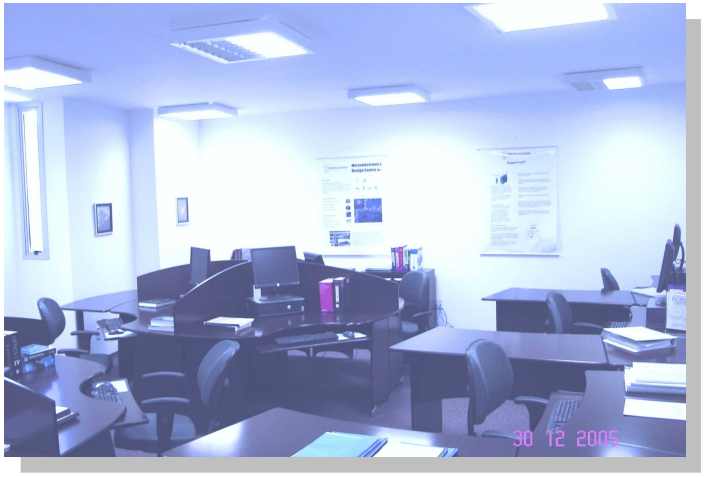
Nanotecnologia





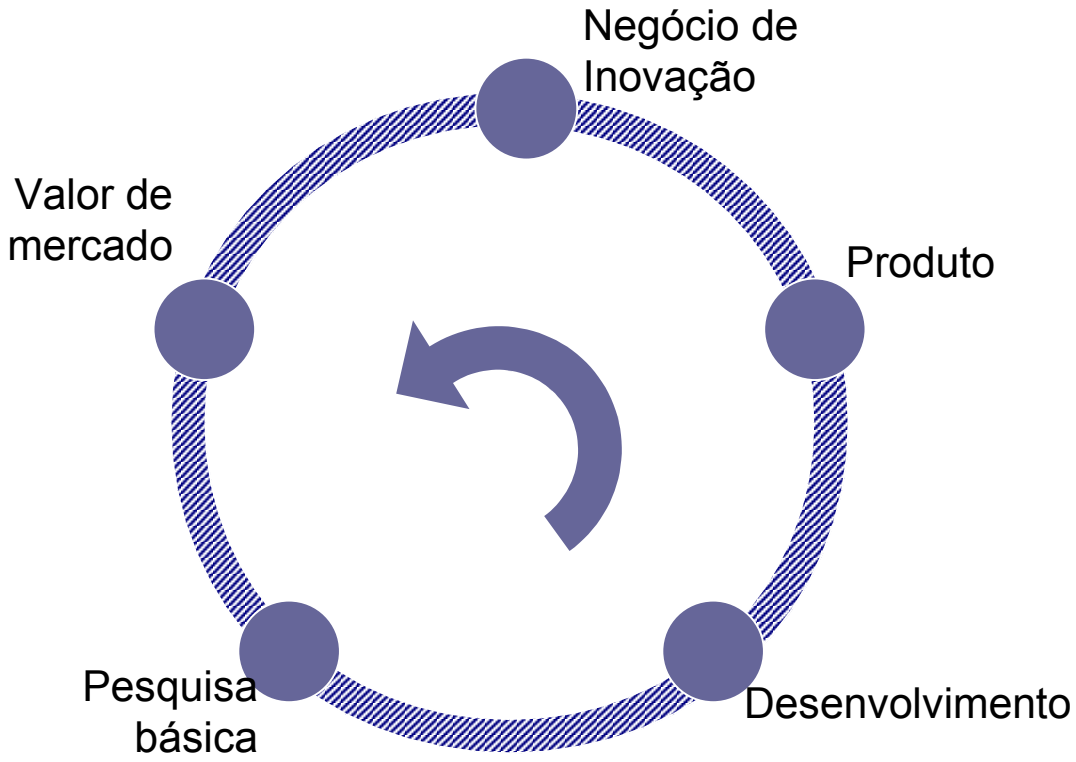


SEMP TOSHIBA

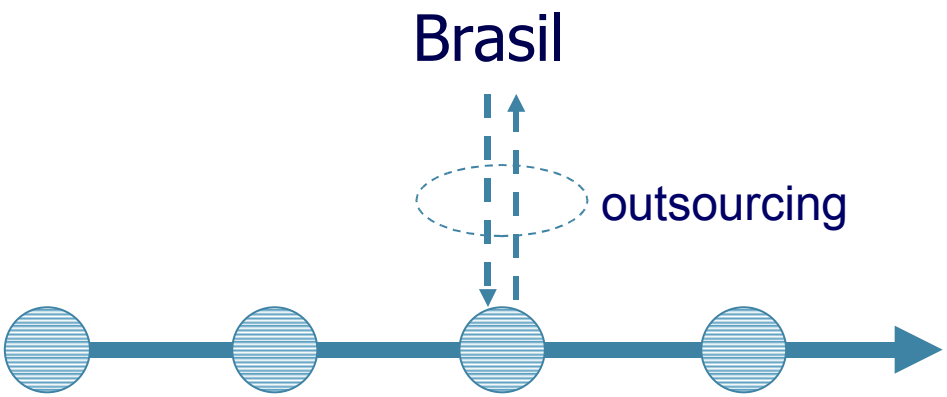


Design de dispositivos e simulacoes de efeitos em processamentos de sinais analogicos

Modelos Dinâmicos



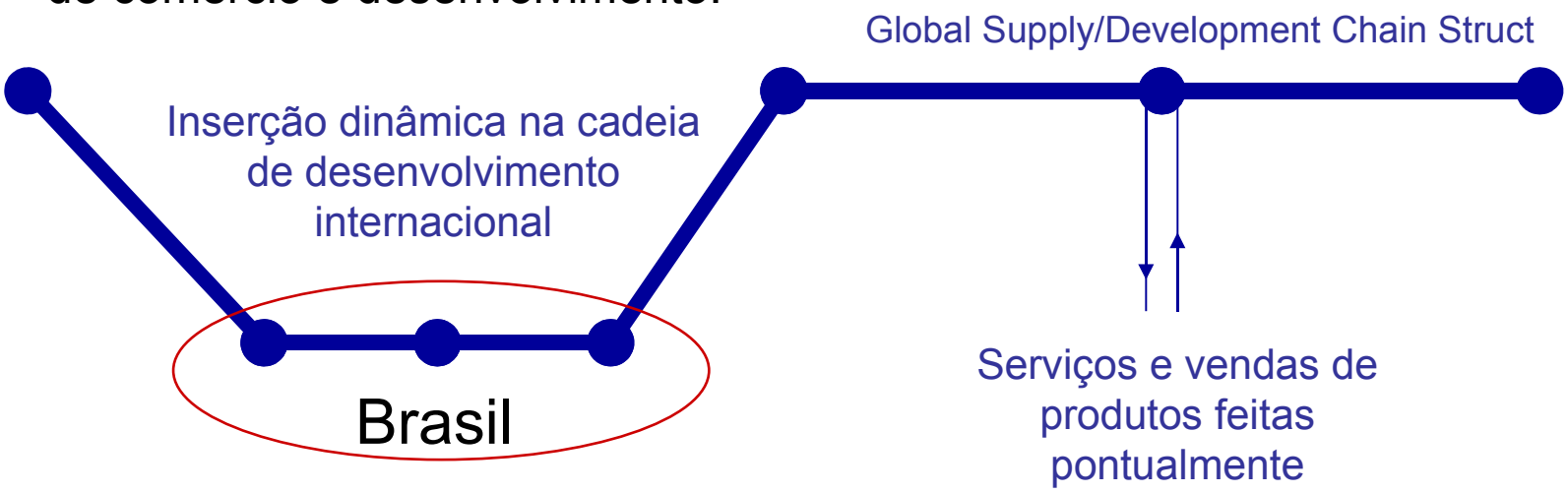
Modelos



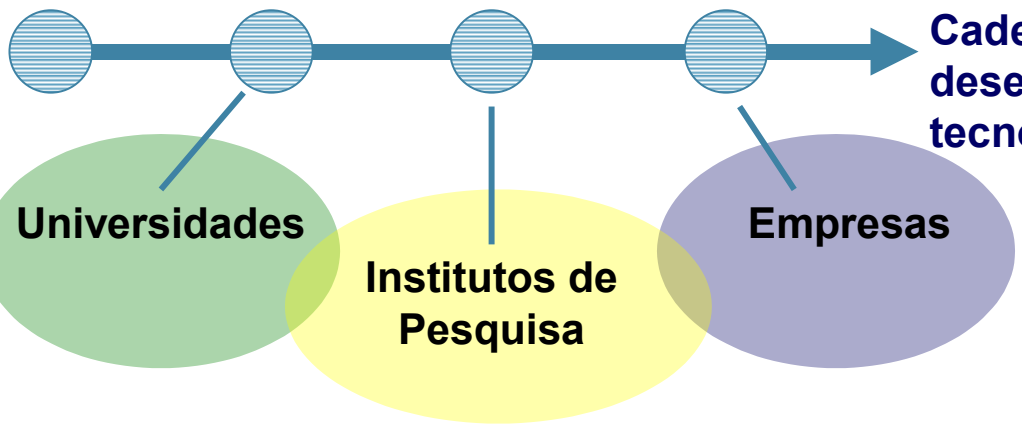
Cadeia de desenvolvimento tecnológico mundial

Modelos

- Tecnologia e Propriedade Intelectual são sem dúvida componentes essenciais na mensuração do valor de uma empresa nas suas relações comerciais.
- O valor de um conjunto de empresas reside na dinâmica que consegue reter e como consegue se integrar na economia. Em uma escala maior, como se insere nas cadeias mundiais de comércio e desenvolvimento.



Modelos



Modelo de Inovacao do von Braun

Mercado Mundial

Operplan
www.operplan.com

Propriedade Intelectual

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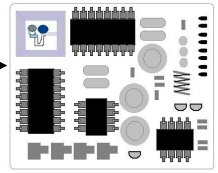
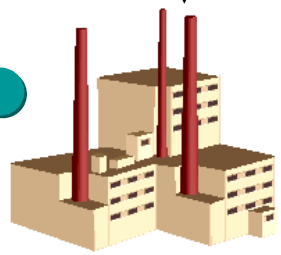
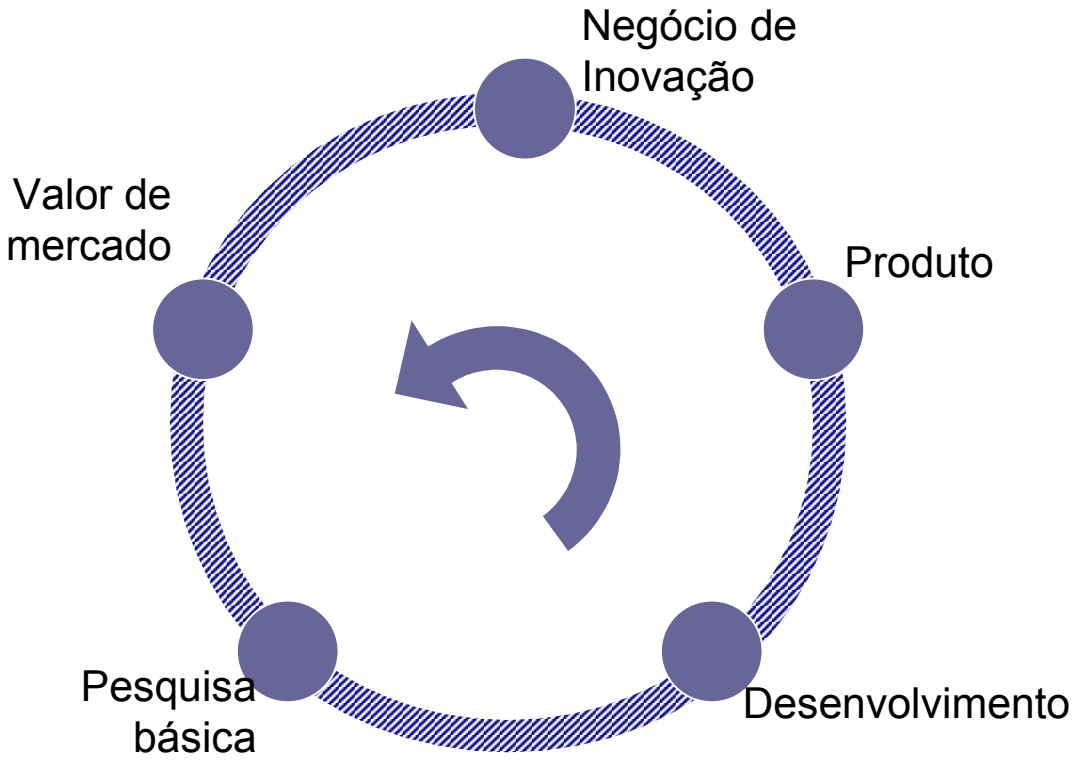


Brazilian Government



Industry partners

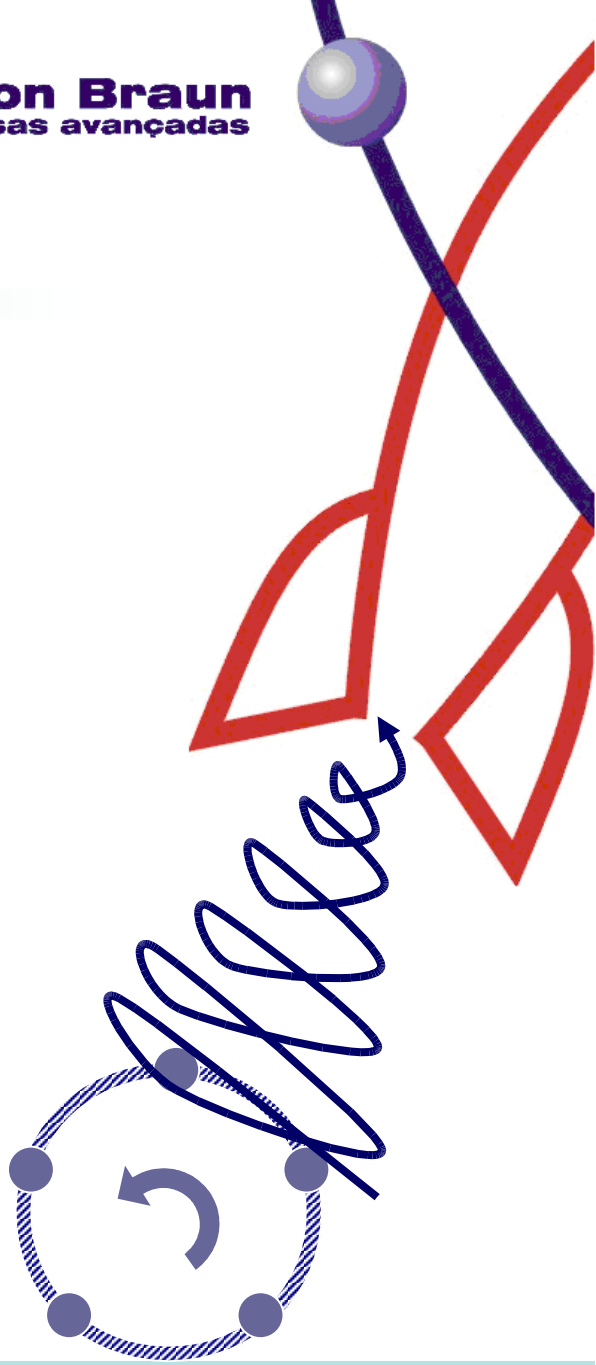
Modelo de Inovacao do von Braun



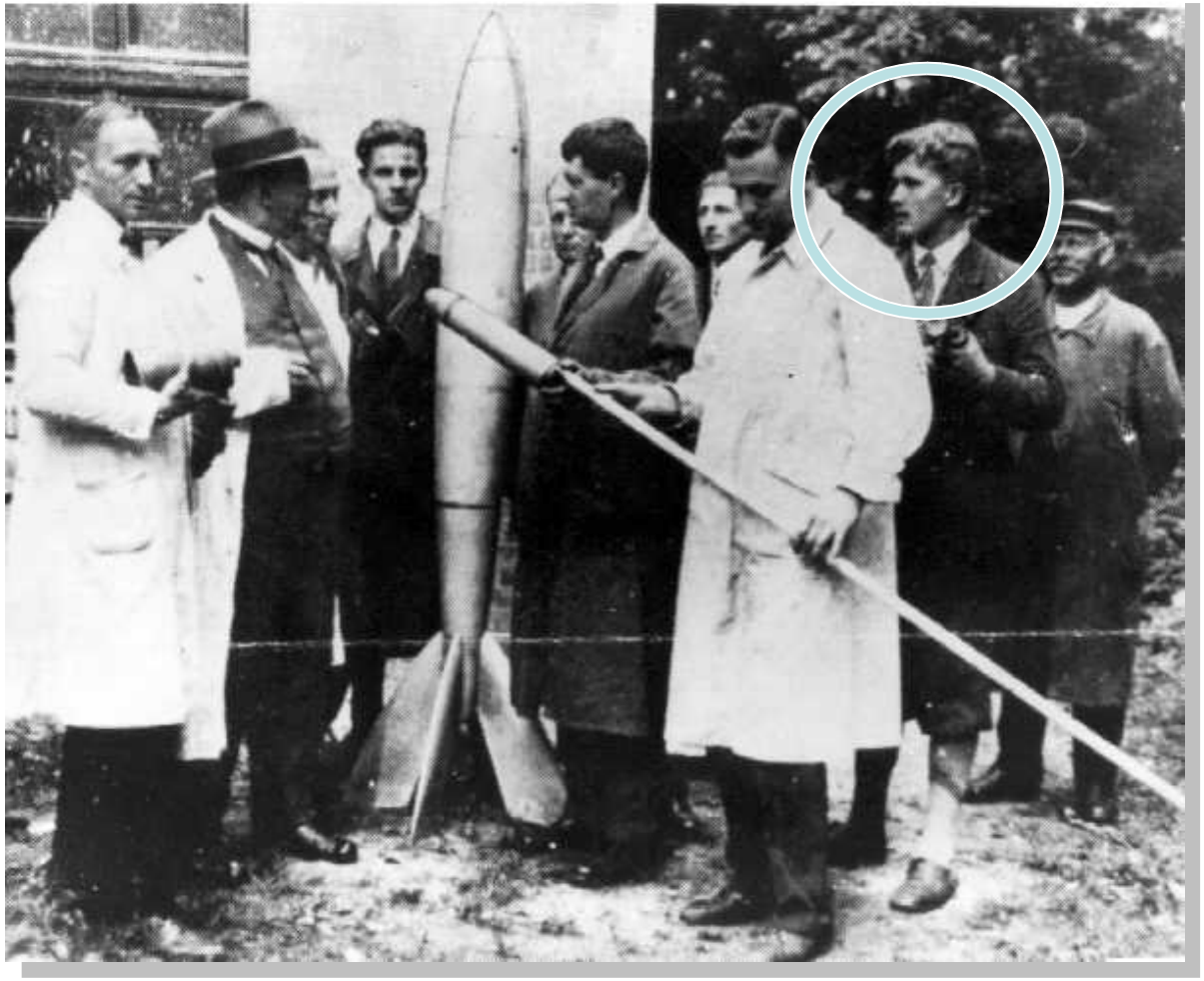
Modelo de Inovacao do von Braun

Qual é o limite de um sistema auto-sustentável com realimentação positiva?

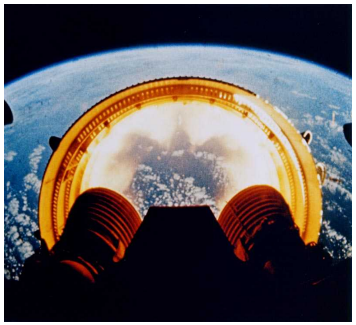
O objetivo do von Braun e' exercitar o ciclo virtuoso de inovacao para aprofundar todos os aspectos, atraves da exploracao do Universo.



Dr Wernher von Braun



Dr Wernher von Braun



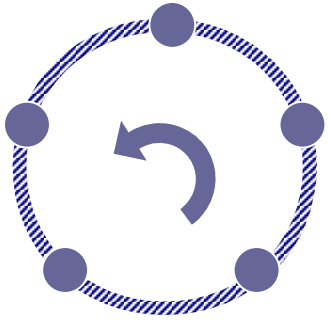
All this was only possible with an incredible TEAM-WORK performed by dedicated people. Flying to outer space is not a one-man endeavor.

Wernher von Braun
centro de pesquisas avançadas

Dr Wernher von Braun

Saturn-Apollo

- Electronics
- Computation (Main Frames)
- Fluid Mechanics
- Mechanical Eng
- Control Systems
- Chemistry
- Materials
- Management
- Physics
- Industrial processes
- Etc, etc

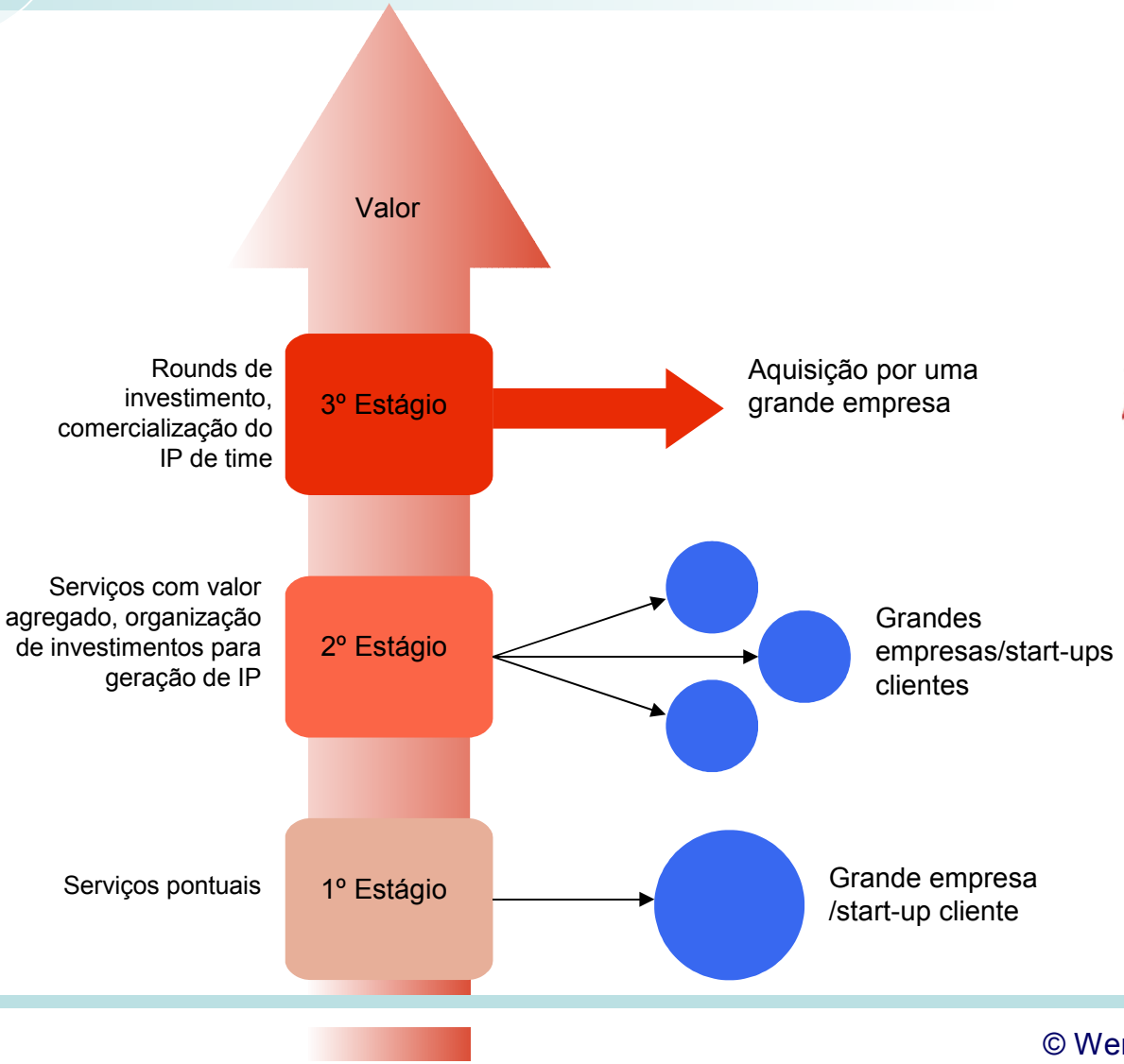


- Electronics
- Computation (PC)
- Precision Mechanics
- World Communications
- Wireless systems
- Medicine
- Psychology
- Special materials
- Etc, etc

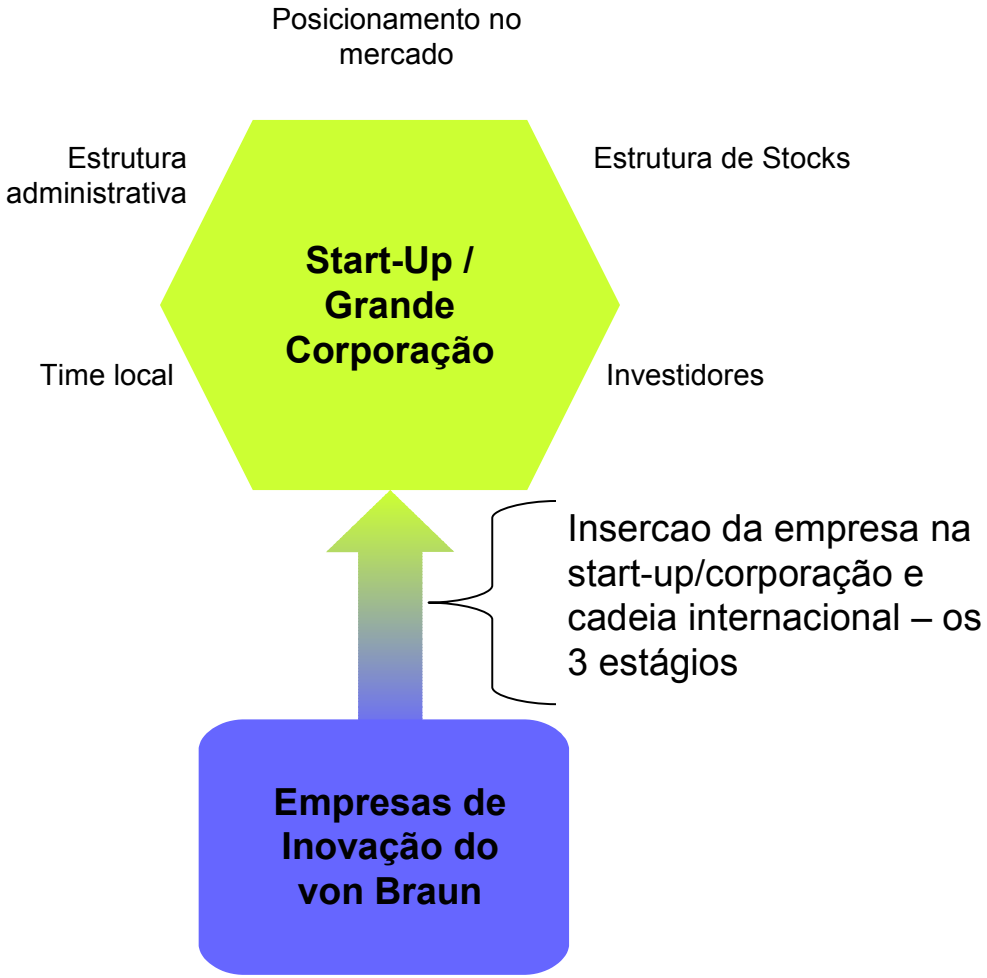
The virtuous cycle

- Internet
- Personal Computer
- Microelectronics
- Nanotechnology
- Global communications
- New Materials
- Advanced Medical equipments
- Computational eng tools

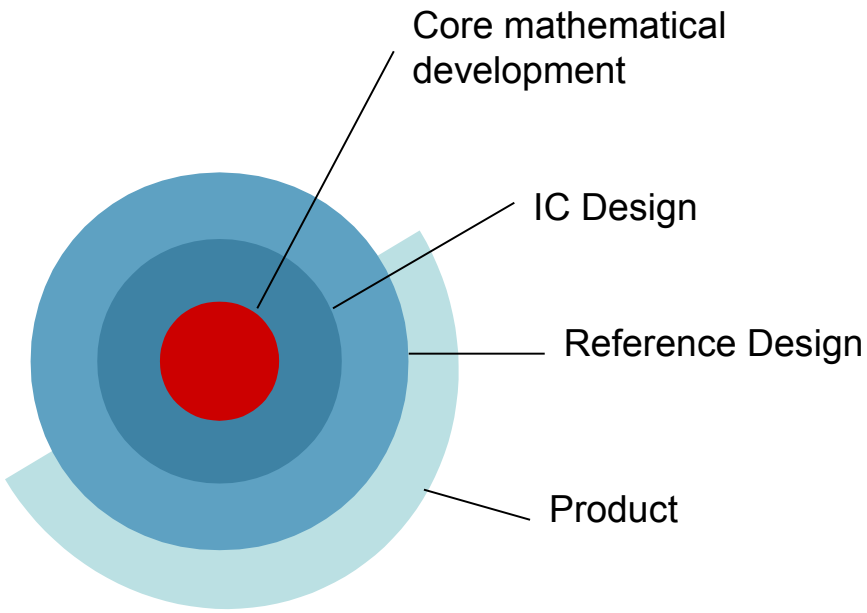
Modelo de Inovacao do von Braun



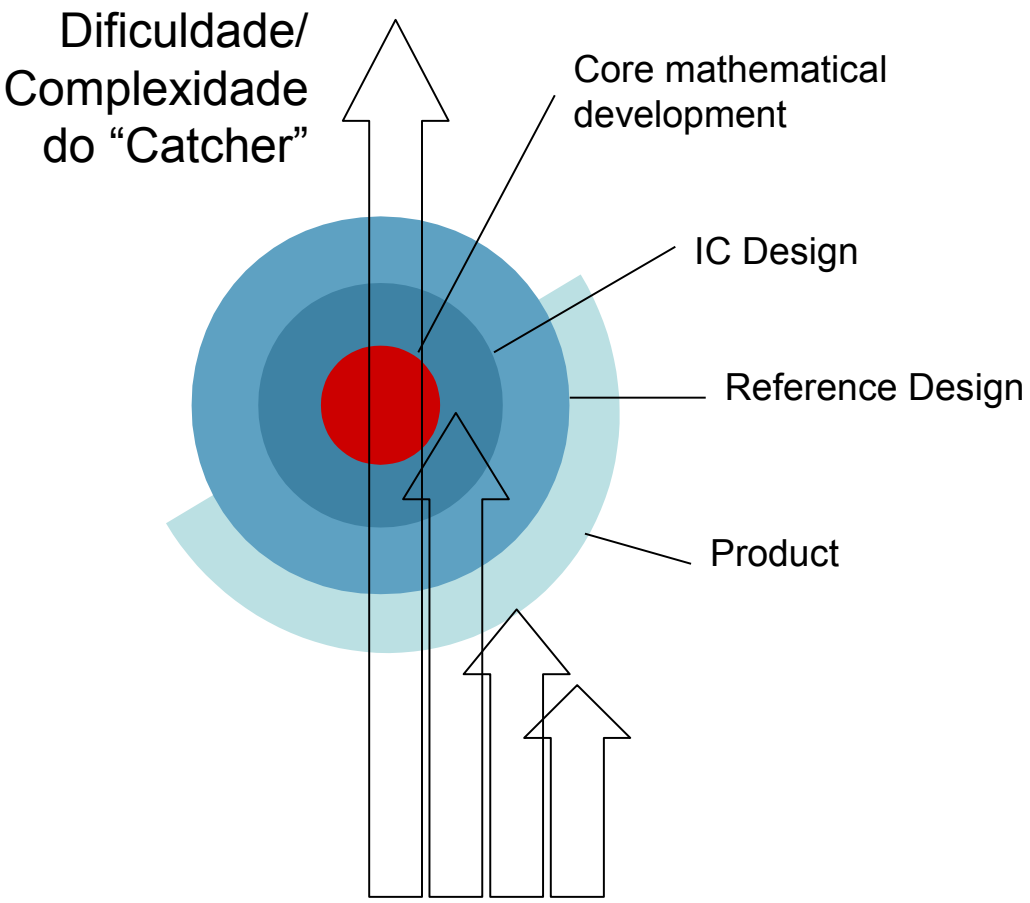
Modelo de Inovacao do von Braun



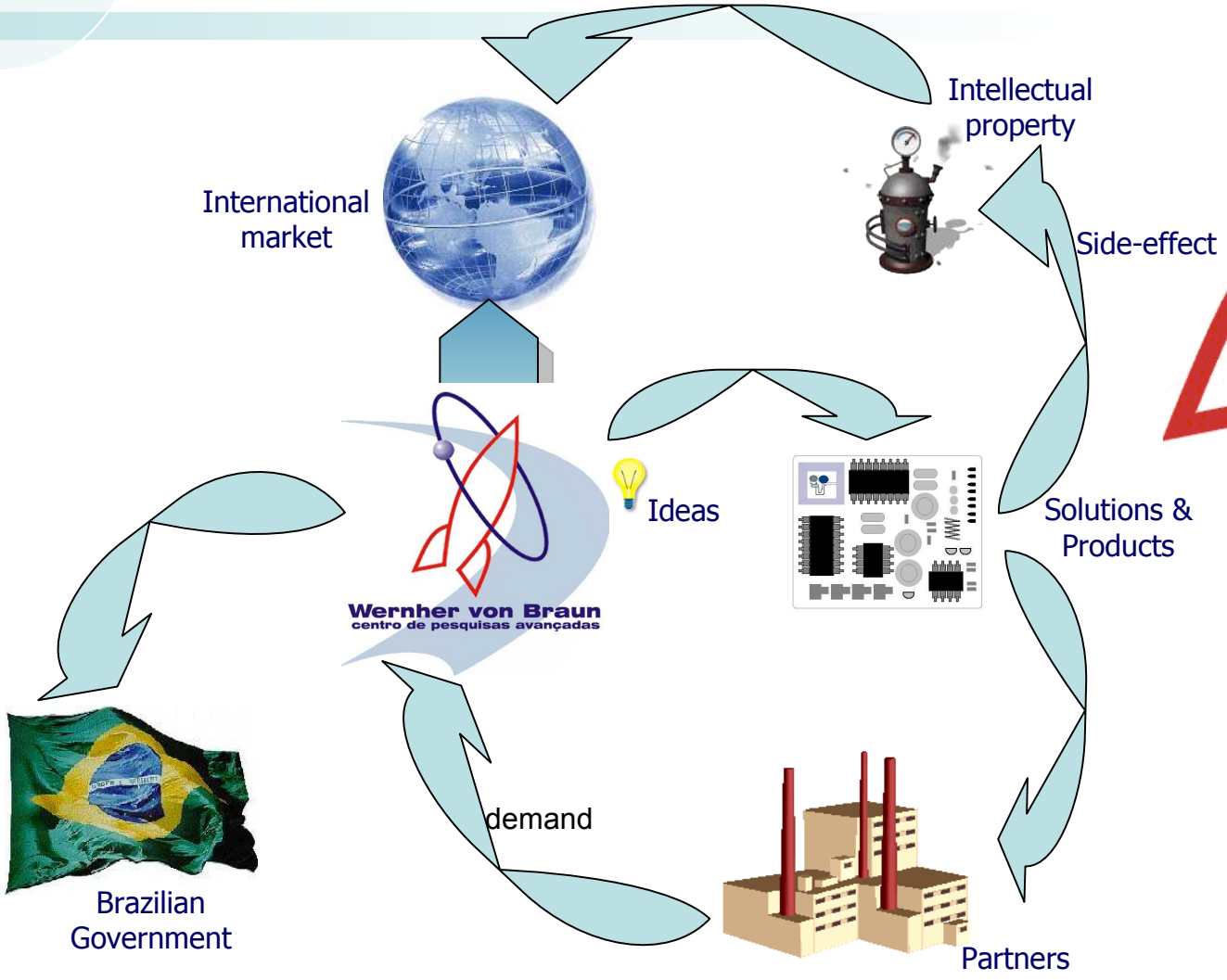
Estratégias



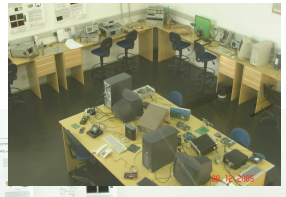
Estratégias

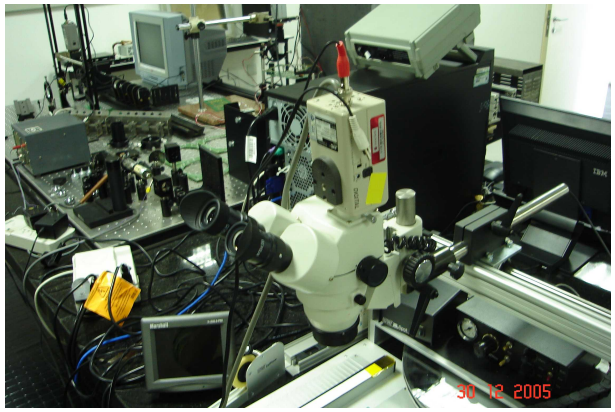


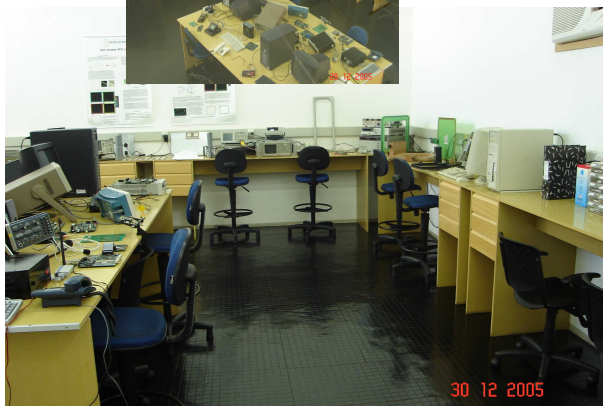
Modelo



Estrutura

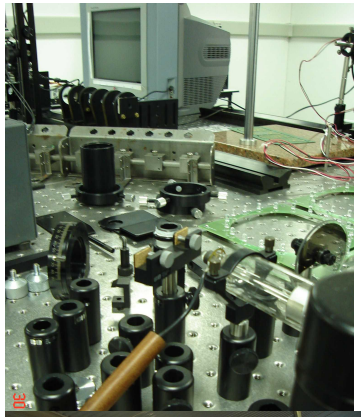
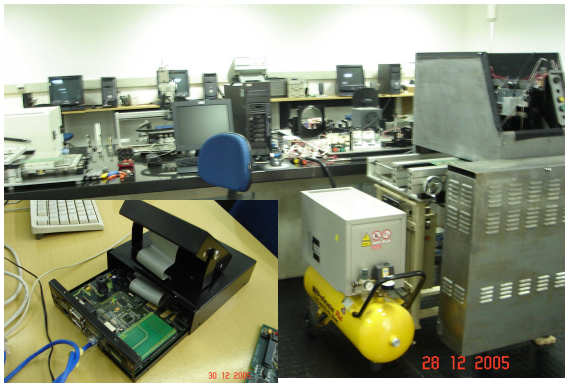


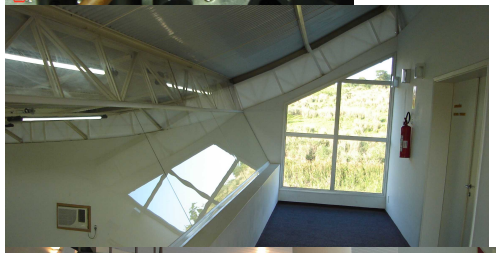


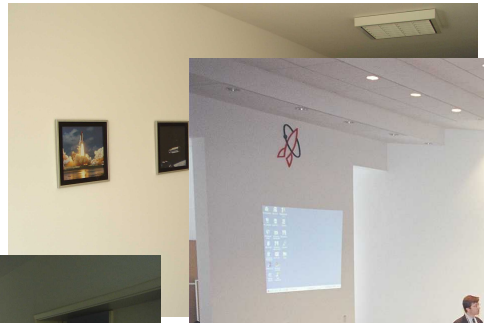


Wernher von Braun
centro de pesquisas avançadas

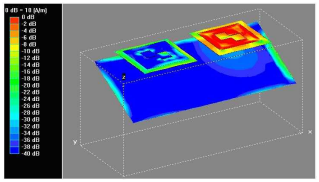
Estrutura

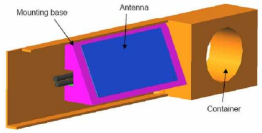



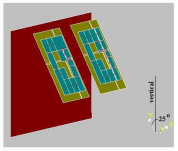


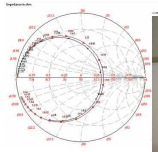


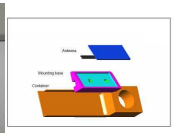

Exemplo

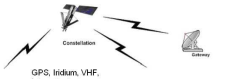


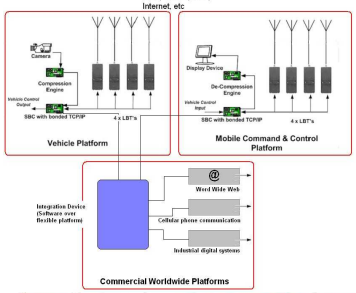


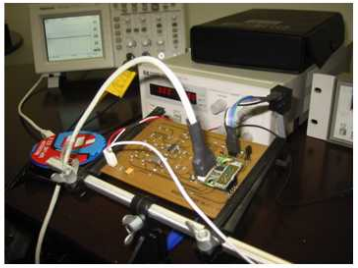


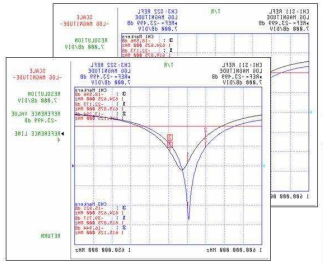


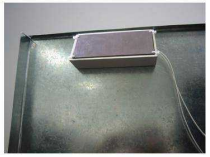












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