



# INTRODUCTION

to the

## National Information Display Laboratory

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Director, NIDL

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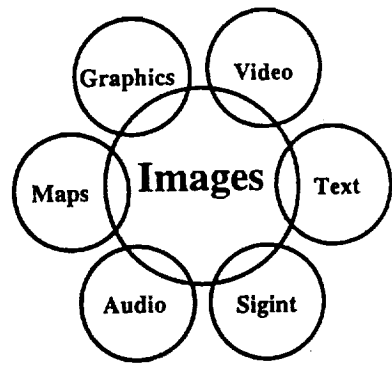
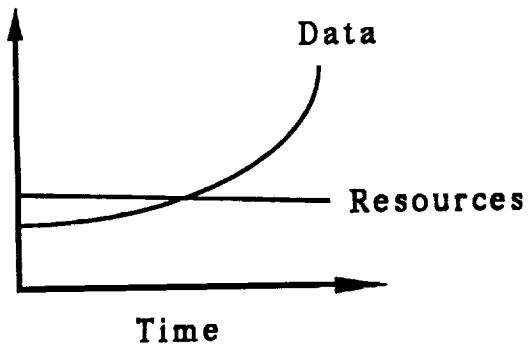
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# Government Information Needs

*... rapidly exploiting and  
disseminating all critical information ...*



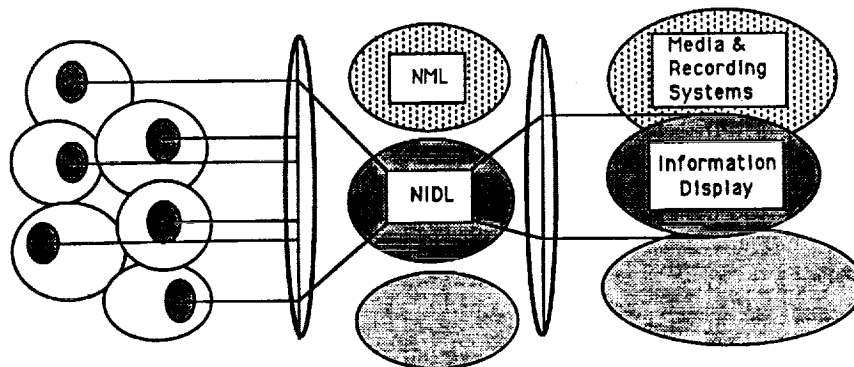
- Rapidly changing roles and responsibilities
- Increasingly diverse users
- Increasing data types

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## The Center of Excellence Concept

*... focusing the resources of Industry onto User's needs ...*



### Government Users

- Users & Developers of Technology
  - Program Offices
  - R&D Groups
- Core technologies, essential to success of program

### Centers of Excellence

- Focus
- Leverage
- Standards
- Continuity
- User Support

### Industry

- Commercial Manufacturers
- R&D Centers
- System Developers
- Universities

H3



## National Lab Business Strategy

*... developing programs with overwhelming value ...*

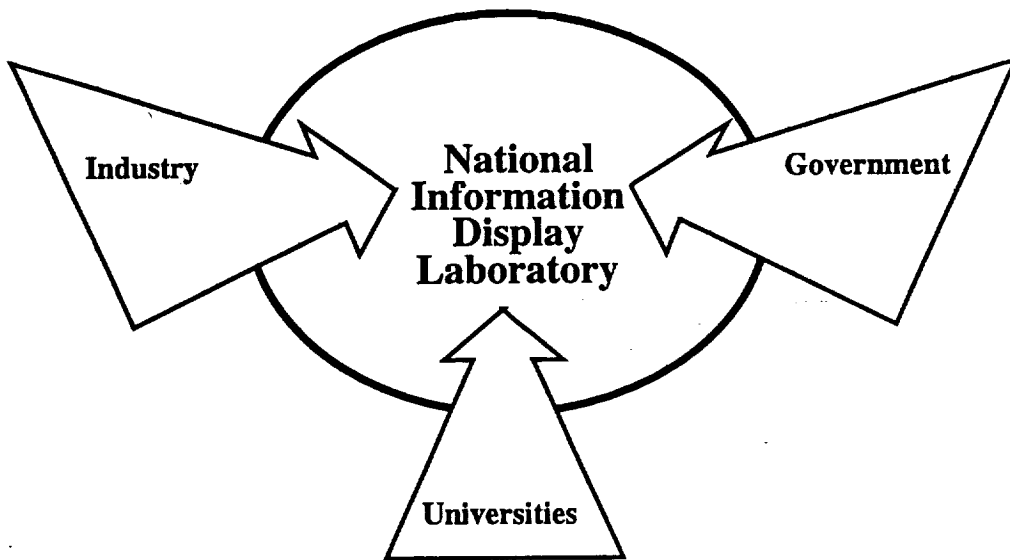
- Work with users to determine needs
- Begin "seed" program
- Seek partners with world leading capabilities
  - Government, Industry and Universities
- Develop programs that provide:
  - User satisfaction
  - Revolutionary Improvements
  - Path to commercialization

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# NIDL "Distributed" Laboratory

*... combining resources of Government, Industry, and Academia ...*



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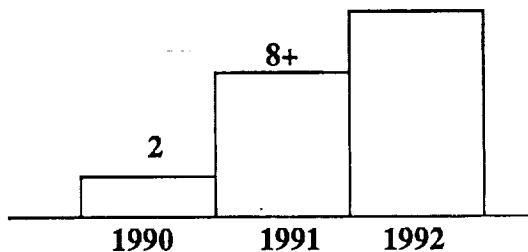
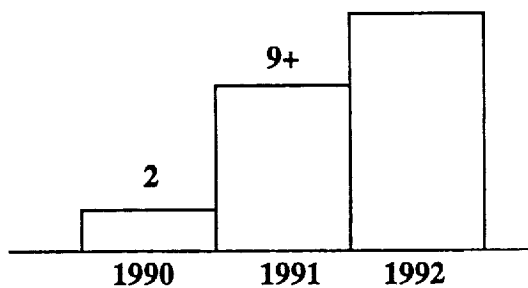
## Partners and Users

- **Government Partners and Users**

- Air Force
- Navy OP 94
- USGS
- JNIDS
- OSTP
- NEL

- **Industry & Academia Partners**

- Princeton University
- MIT
- Texas Tech
- Planar
- RCA/TCE
- DTI -AVP/MegaScan

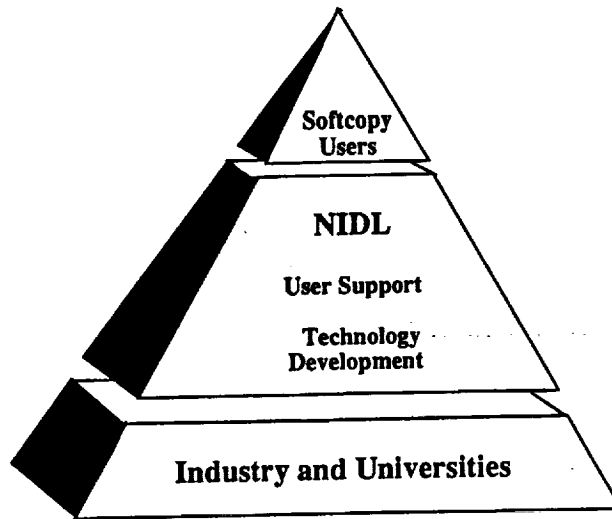


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# National Information Display Laboratory

*... a Center of Excellence for Softcopy technology ...*

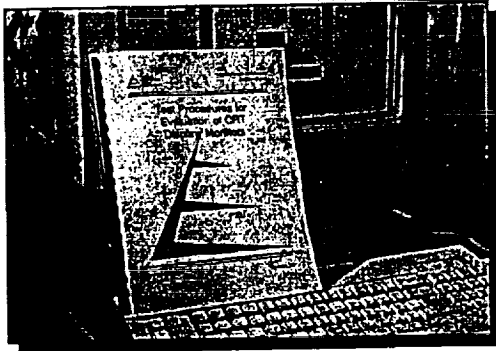


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# Standards

*... establishing industry display and imaging standards that represent the government's viewpoint ...*



**Measurement Procedures**

**Luminance Step Response**

- Objective
- Equipment
- Test pattern
- Procedure
- Data
- Analysis

**Luminance Step Response (Overdrive, rise and fall time)**

**Objective:** Characterize overdrive and underdrive which may be caused by the video reversibility of the CRT display.

**Equipment:** Quantum Data 9785-1, Measurement SUPERDOT 99A, CMA-1 Optics, Photometer, Chart recorder.

**Test pattern:** Use the CBT/ITER SQUARE 170-screen step test of screen center using individual frame and center of target round (level 5), 100, 150, 200 and 250 as shown in the figure. Screened recommended to input about level 6. Per overdrive and underdrive use 10% and 50% luminance levels. Also measure the frame pattern.

**Procedure:** Use Superdot 990 with CCD optics available with SuperFlow to measure brightness profile of right and left side edges of the CBT/ITER SQUARE 170-screen step test.

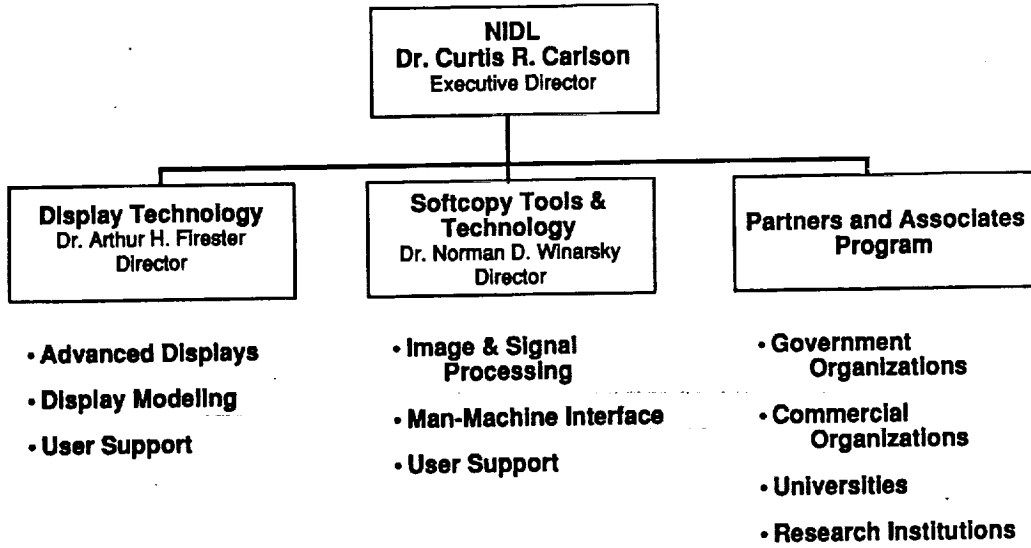
**Notes:** Photograph multiple trace of generation signal to identify stability of generation. Compare the generation signal to the SUPERDOT 99A display of another light output. Analyze also suitable to the monitor and then separated from the artifact caused by the video signal generation.

**Analysis:** Quality control of overdrive or underdrive and 10% to 50% rise and fall time.

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# NIDL Organization

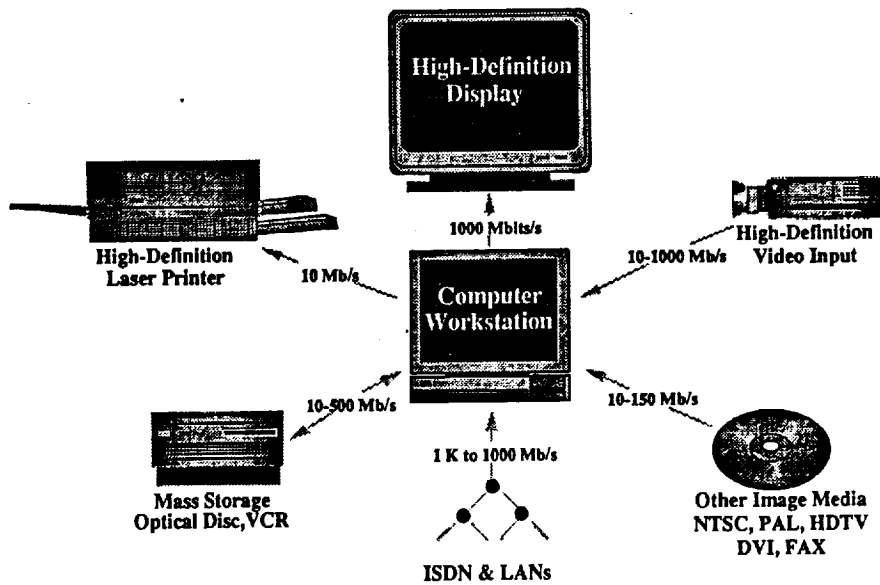


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# Office Environment of the Late 1990's

*... the office will heavily exploit HDTV technology ...*

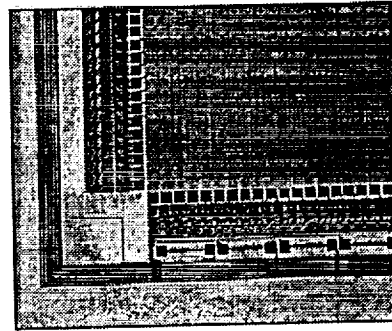
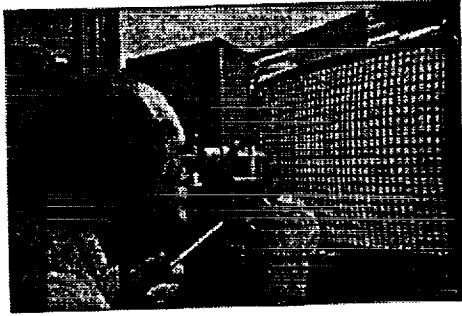


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# Display Technologies

*... large, uniform, high-resolution, bright displays ...*

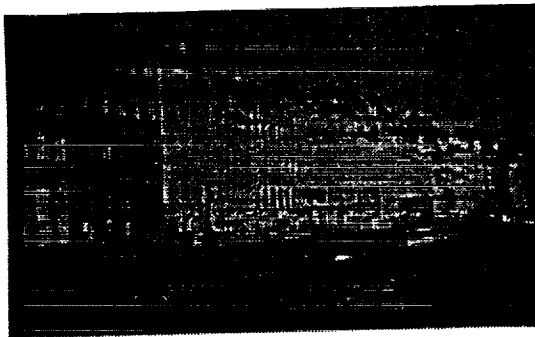


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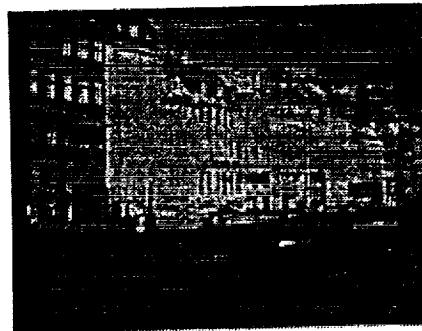


# HDTV

*... the key is extremely high-performance  
image compression ...*



HDTV



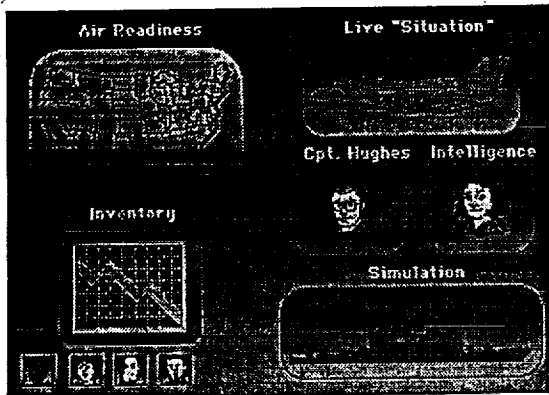
NTSC

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# High-Resolution Video Workstations

*... will have multiple video and graphics windows ...*

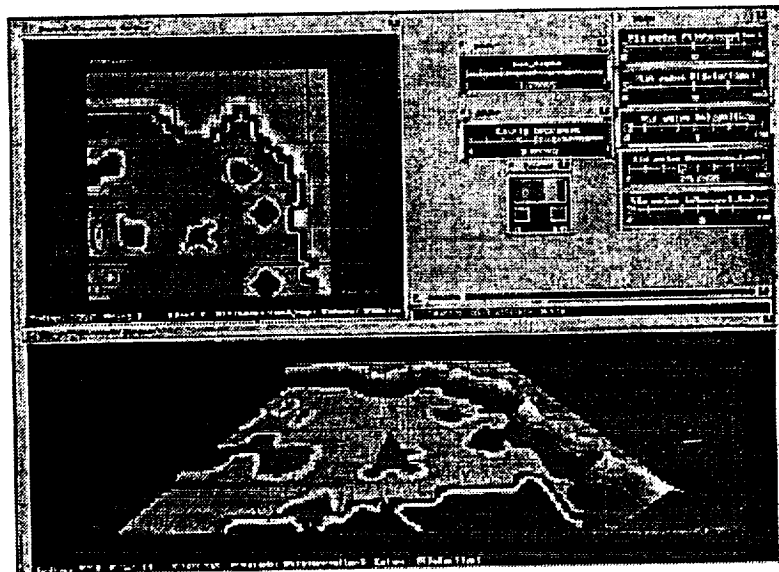


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# Data Visualization

*... presenting data to users in their visual language ...*



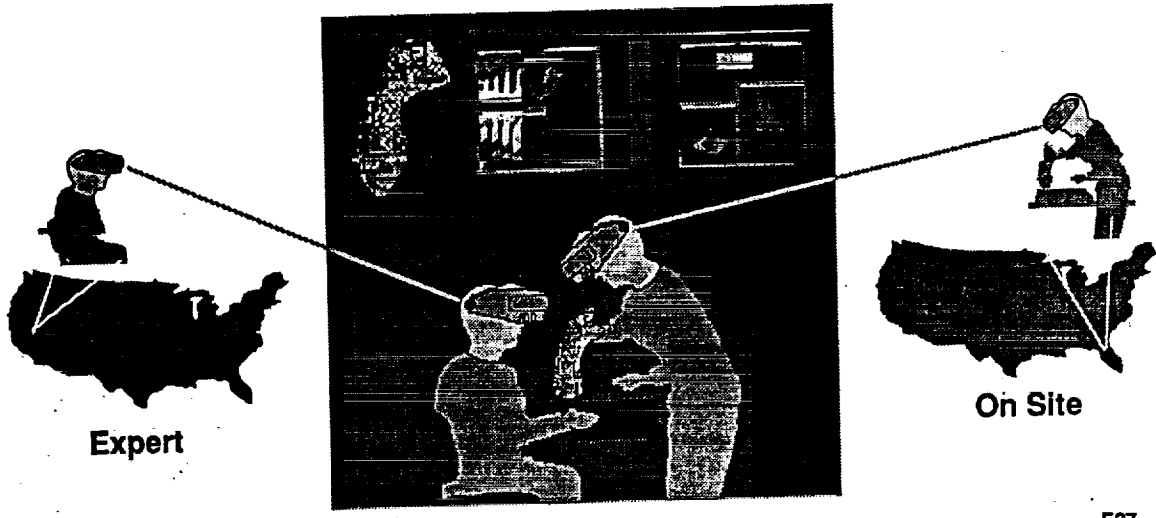
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# Virtual Reality

*... creating real-time, high-resolution, 3D synthetic environments ...*

## *Collaborative Workplace*



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# Communications

*... reaching out to both the Government and Industry ...*

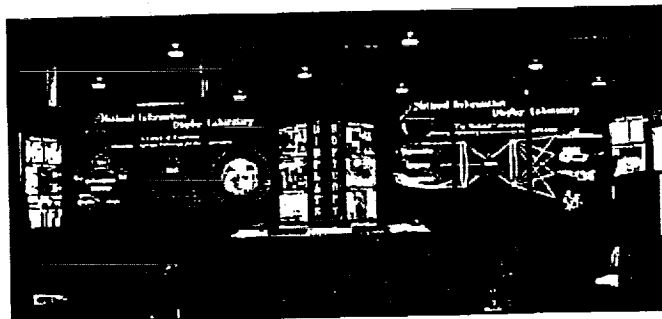
### • Government

- IPWG
- NASA
- JNIDS
- NEL
- DNI
- DARPA

- ORD
- OSTP
- FAA
- IRDC
- DCA staff
- Navy Op 94

### • Industry

- Int'l. Display Conference Keynote
- SID Plenary Presentation
- SID Standards activities
- SID Display Booth
- JTEC
- Many other individual companies



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## **Conclusions**

*... a new model for Government/Industry collaboration ...*

- **NIDL is a Center of Excellence in Softcopy Technology**
- **Goal: develop bold new way to satisfy the needs of Government Users through both:**
  - **Aggressive User support**
  - **Advanced technology**
- **Focus key softcopy and display technology on the interface to Users, to make them much more productive**
- **NIDL is a "Distributed Laboratory" with world-leading partners**
- **For additional information, call NIDL at 609-951-0150**

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