



2:55	20 min	POCT Communication Standard - The first step towards the fourth generation of laboratory systems	Georg Hoffmann - Grafrath Trillium GmbH
3:15	10 min	Discussion, Q&A	Thomas Norgall - Erlangen Fraunhofer-Institut für Integrierte Schaltungen, Chair CIC Europe
3:25	05 min	Next Steps Europe and Closing	Thomas Norgall - Erlangen Fraunhofer-Institut für Integrierte Schaltungen, Chair CIC Europe

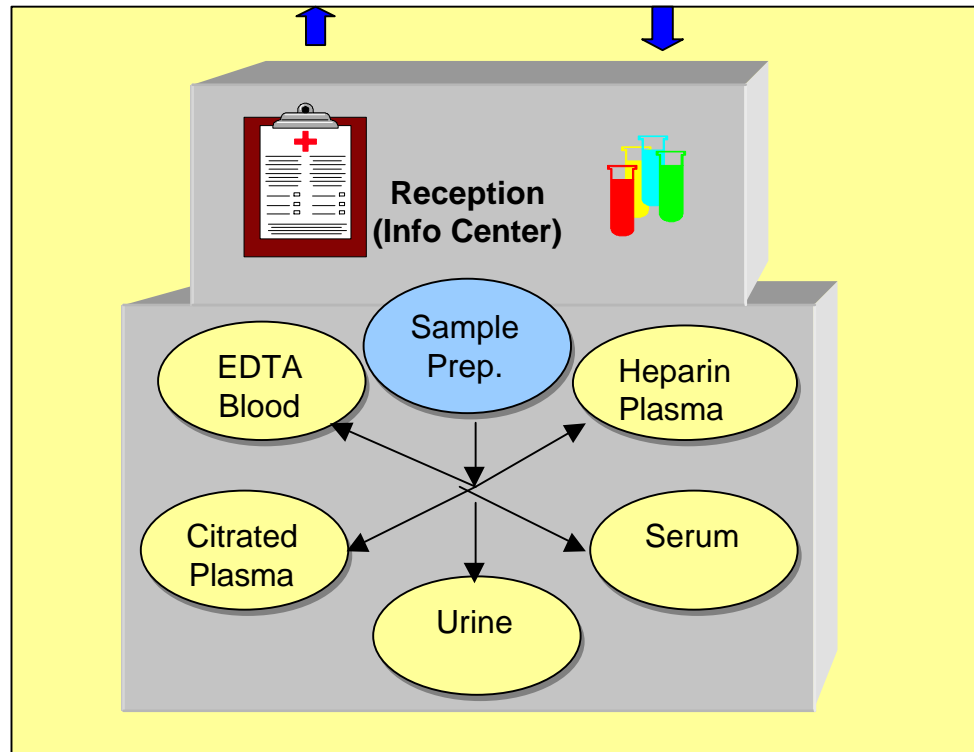
Prof. Dr. med. Georg Hoffmann, Grafrath, Germany  
CIC/EI Meeting in Düsseldorf Germany  
at MEDICA 2004

# Three Generations of Laboratory Systems

- 1950 • First Generation: „Monotests“ and „Autoanalyzers“
- 1975 • Second Generation: Analytical systems („open“ and „closed“)
- 2000 • Third Generation: Laboratory systems („consolidation“ and „integration“)

Fourth Generation: Boundary-less Laboratories

# Third Generation Laboratory Standardized Efficiency



NCCLS Standard Interfaces AUTO A1-5

# A Major Improvement

## **Second generation**

- One analyzer per technology
- Sample splitting or sequential testing
- Manual sample preparation

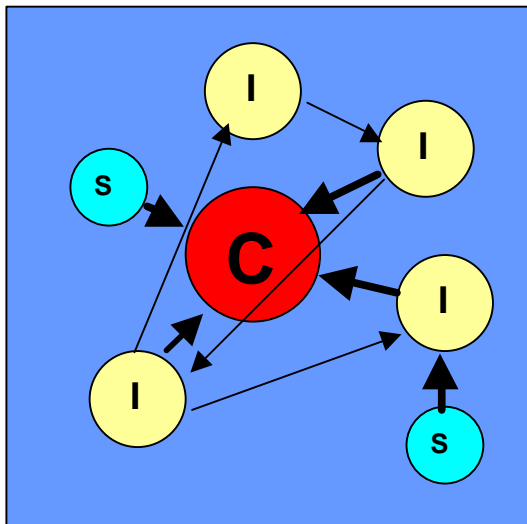
## **Stand-alone Analyzer**

## **Third generation**

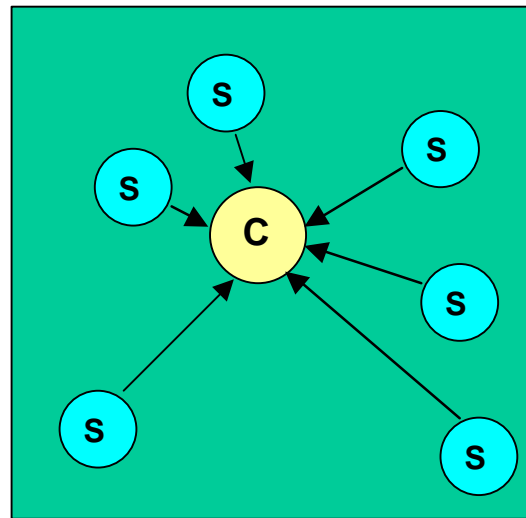
- One workcell per sample material
- Consolidated and integrated processing
- Automated (or no) sample preparation

## **Stand-alone Laboratory**

# Networks: The first step towards the fourth generation



**Traditional Core Lab  
Concept**



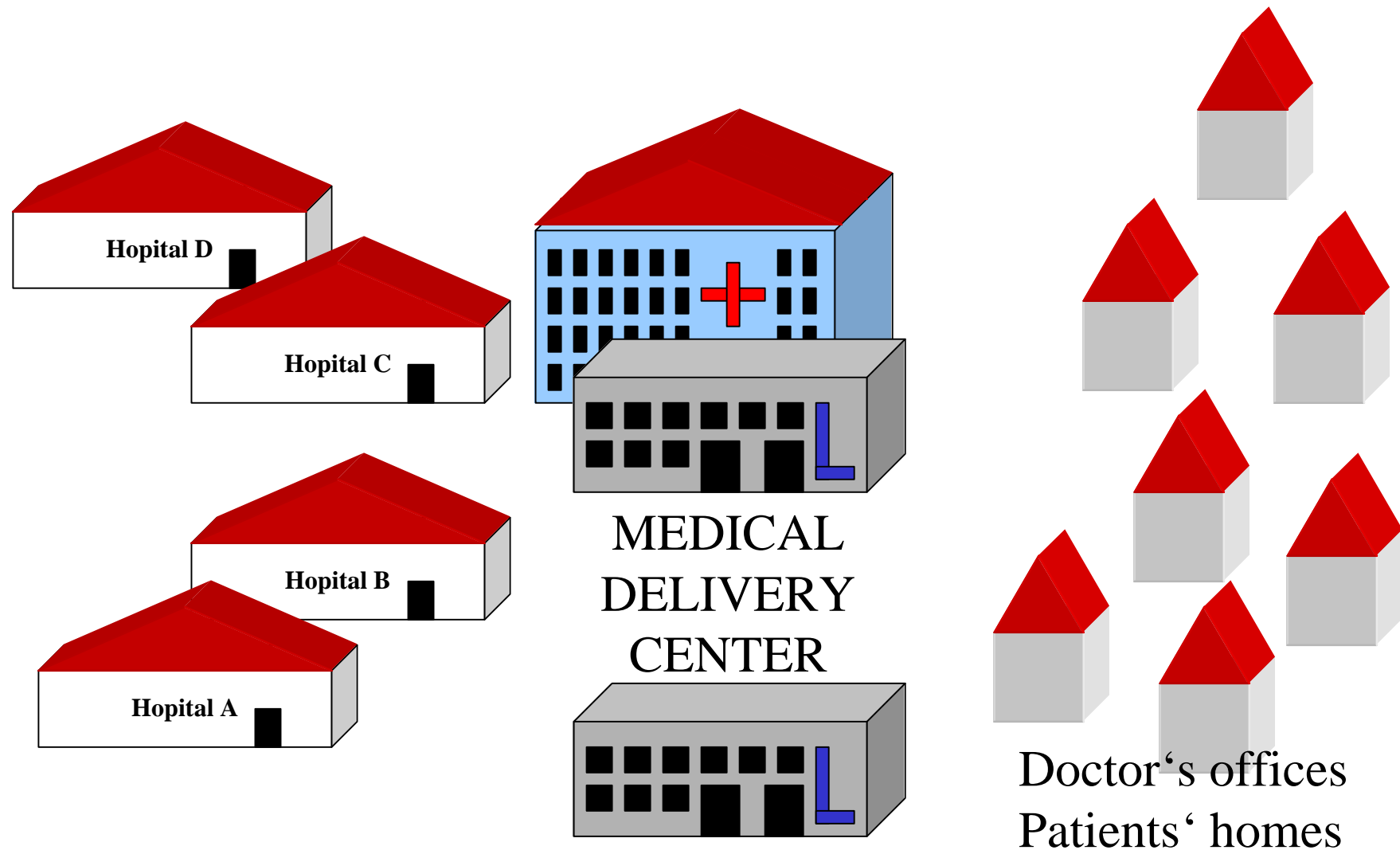
**Competence Center  
Concept**

German legislative fosters centralized QC for decentralized testing (RiliBÄK)

## **Prerequisites:**

- 1) Standardised laboratories
- 2) Common organisation
- 3) Common data base
- 4) POCT
- 5) **Standardized communication interfaces**

# Integrated Delivery in Germany



# Benefits of the Fourth Generation

- More efficient regional health care
- Improved utilization of hospital testing capacities (higher volumes, longer periods)
- Increased efficiency for esoterics testing (higher volumes, focussed competence)
- Less redundancy, less transportation, less "megalabs" ... less costly

... and a great chance for open and cost-efficient POCT standards