

Frameworks and Roadmaps to Optimize the Cash Highway

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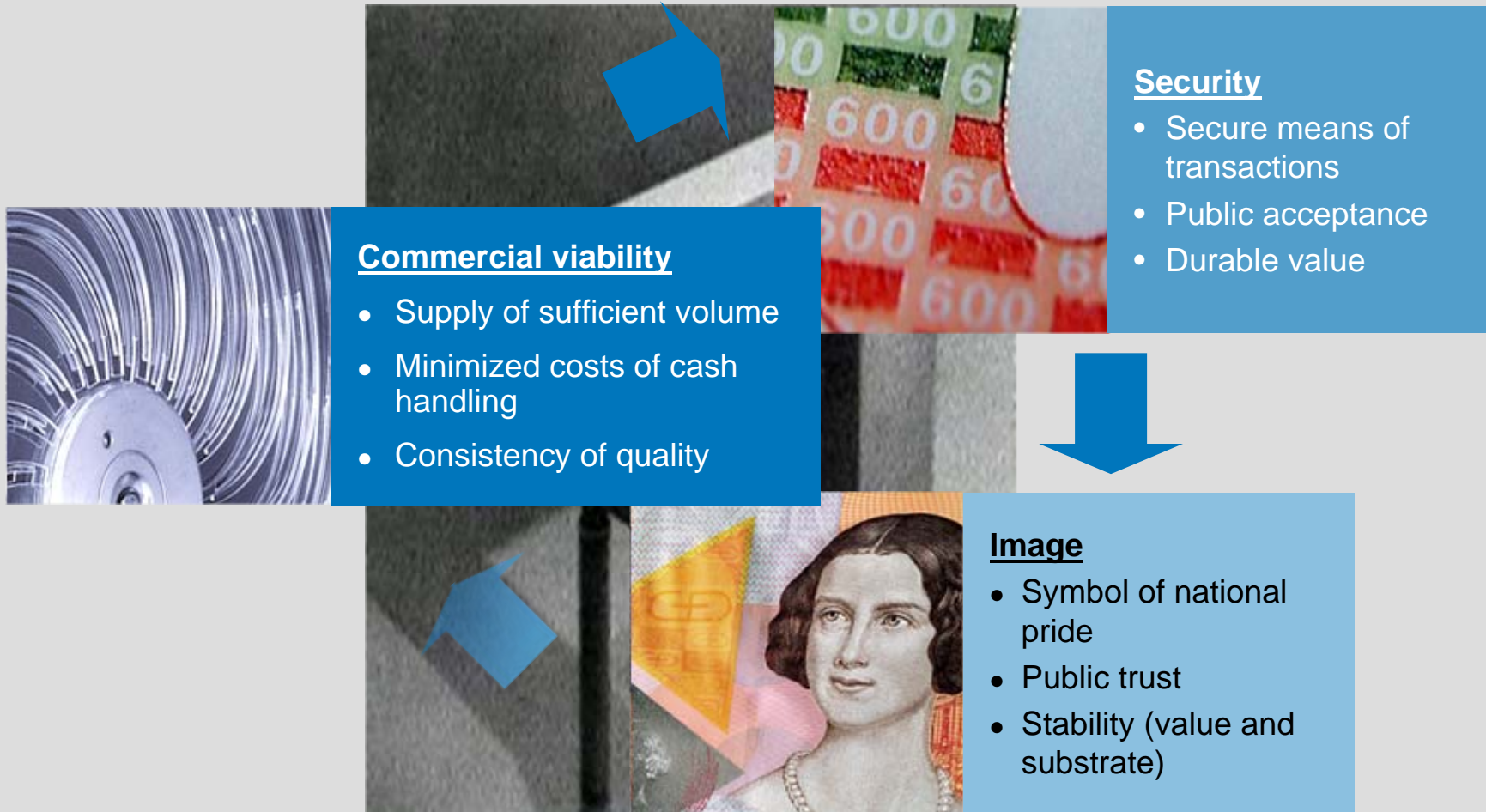
Creating Confidence.

AGENDA

- Why optimize
- Controls to optimize
- Interests of players
- Regulations impact
- Technology provides opportunities
- Processes to be optimized
- Products bring it alive
- Summary



The Magic Triangle of the Cash Value Chain



Where's the Need to Optimize

- Increasing volume of banknotes
 - Volume is increasing approximately 3-4 % per annum
- Professional cash handlers business efficiency
 - More regulations
 - High competition
 - Increasing cost
- Trend to integrate POS in the cash cycle
 - Taking in banknotes is twice as expensive than giving out

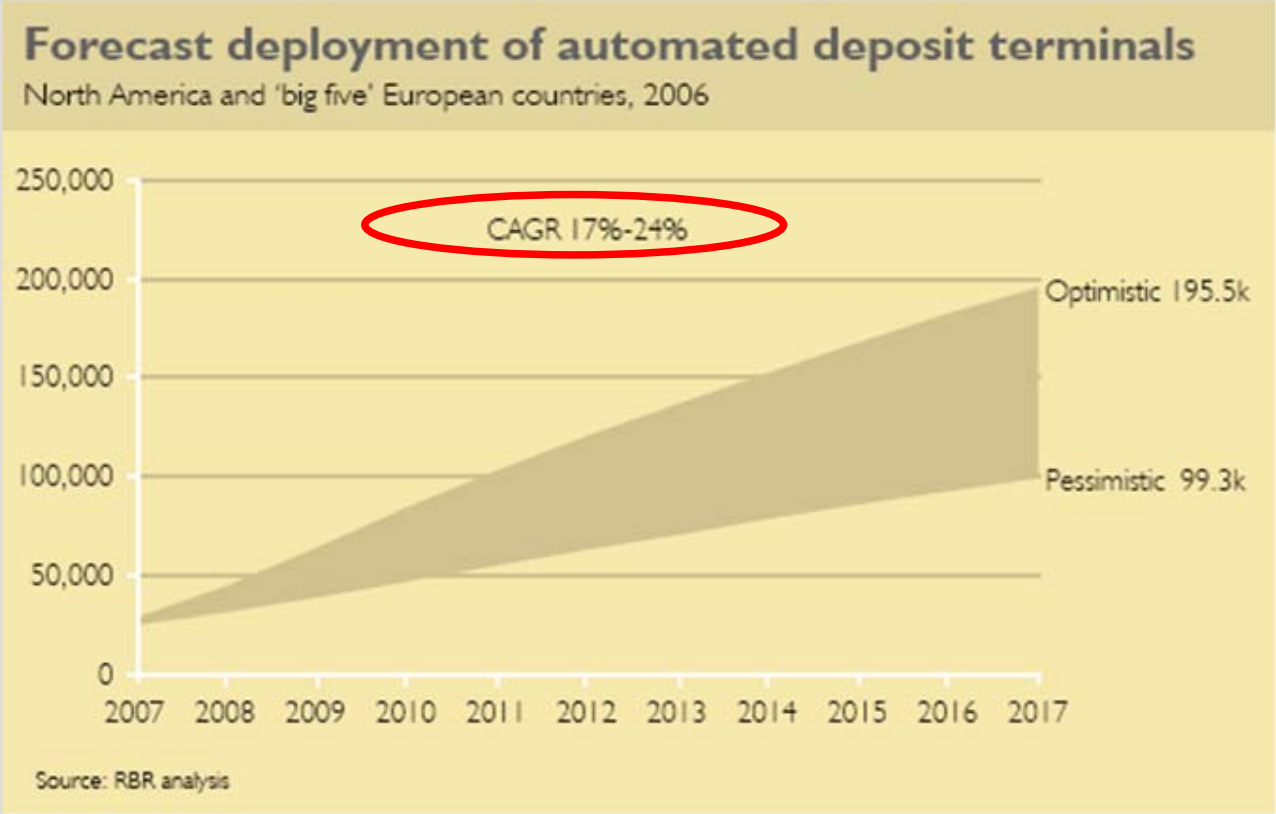


Increased Efficiency of Cash Cycle

Ongoing Debate about cost of cash



Cost of cash-in
=
2 x cost of cash-out



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Controls to Optimize

■ Regulations

- The right interpretation contributes
- Feedback to the regulatory institutions

■ Technology

- Gives new opportunities
- On all levels from banknote to destruction

■ Processes

- Have to be adopted to new developments and solutions

■ Products

- Use state of the art technology
- Can handle the increasing volume

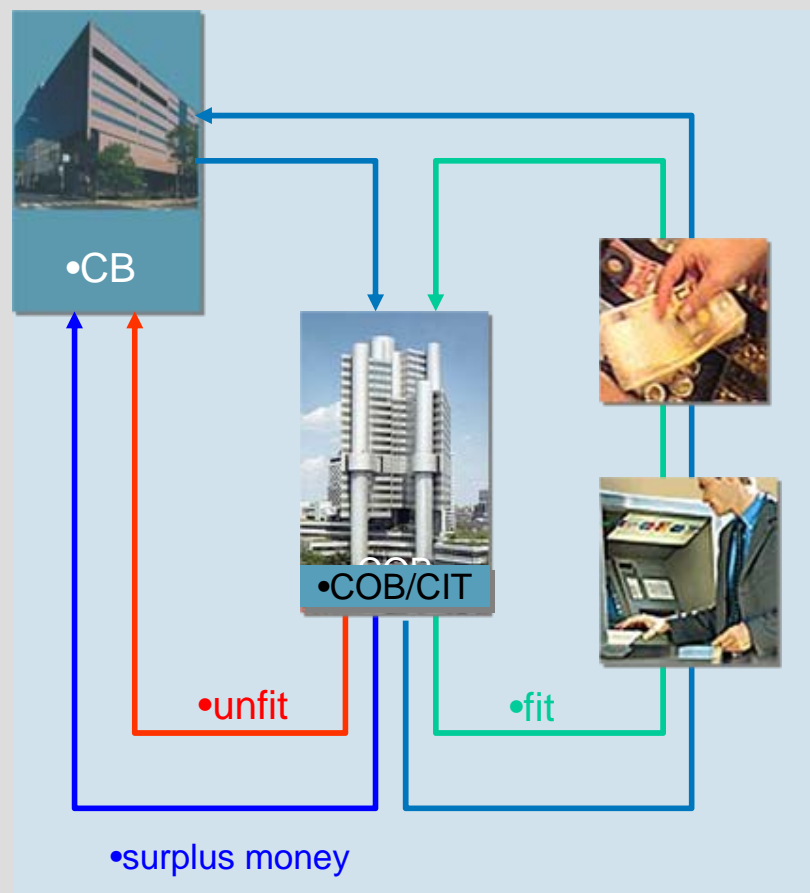


Interests of Different Players

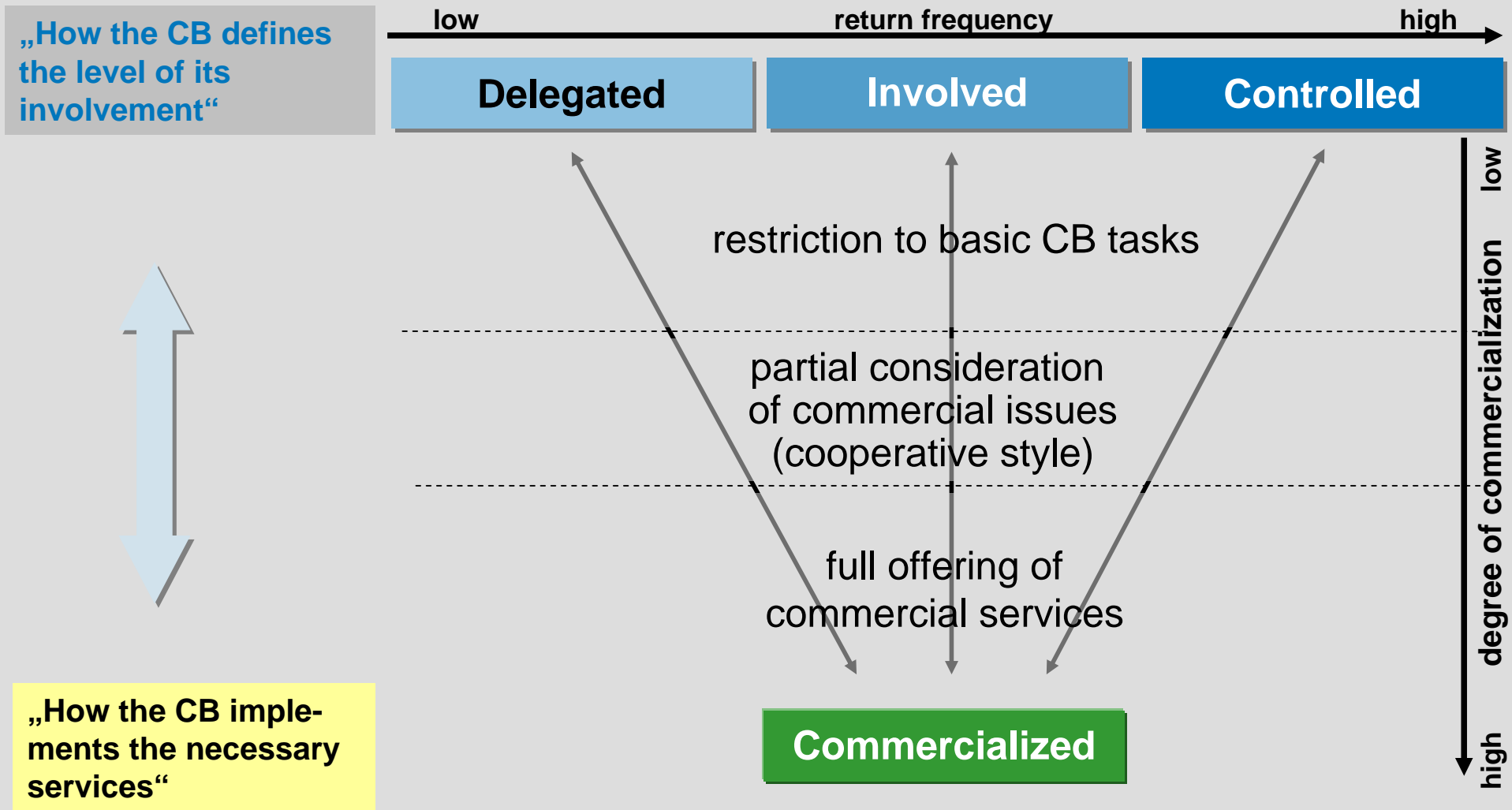


Policies of Central Banks

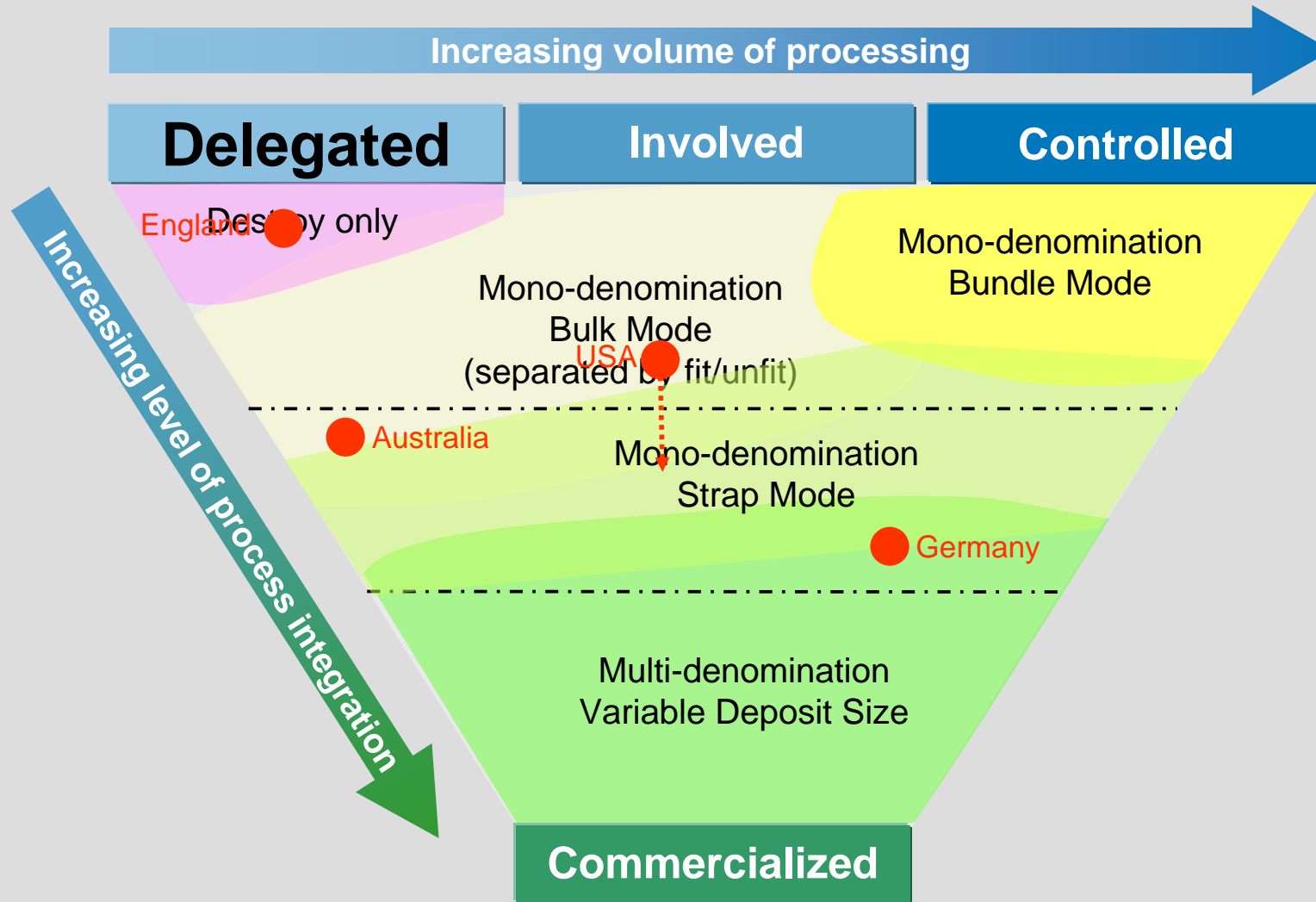
- Sorting policies of Central Banks (CB) require solid framework of standardization
- These policies provide the framework for sorting
- Various approaches in many countries. Depending on policy and local requirements, implementation may differ
- Policies are enforced by penalties, fees or denial of service(s)
- Central bank control must span over complete cash cycle



Characteristics of Central Banks



Process Applications of Central Banks



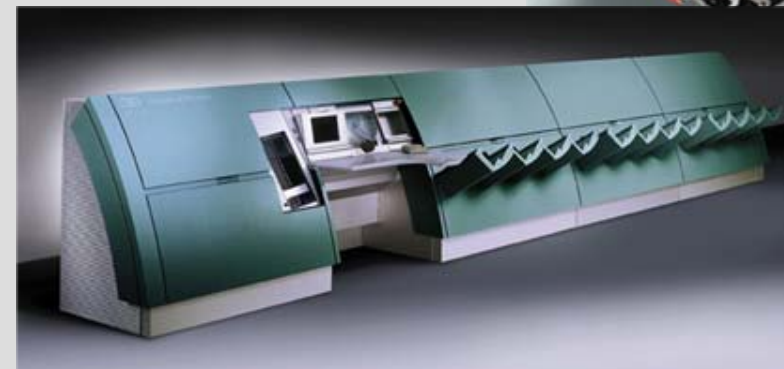
Technology (Roadmap)

- Security features
 - Support regulations
 - Increased opportunities

- Machine readable features
 - Improve processes
 - Improve productivity

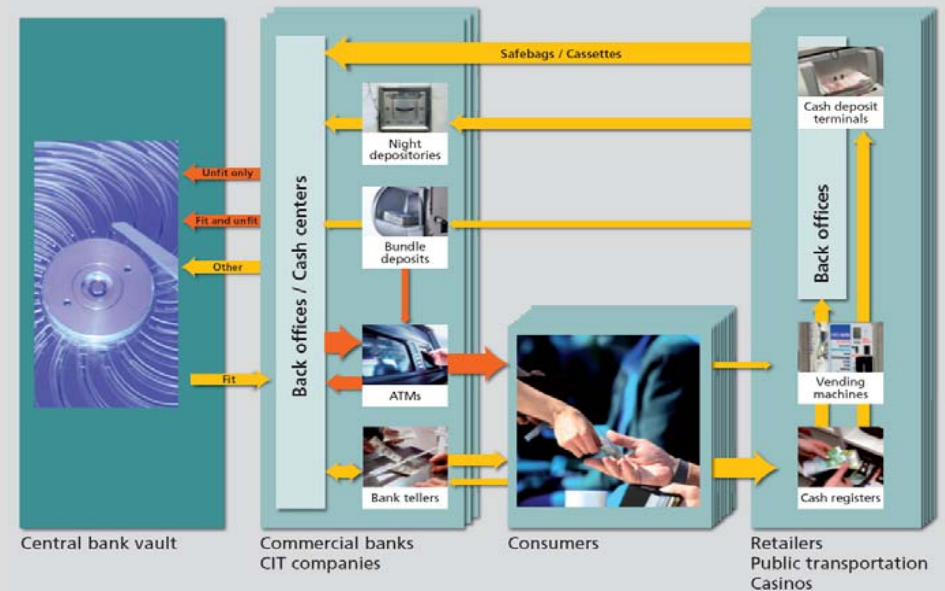
- Sensor technology
 - Leading technology
 - Outstanding recognition rate

- Processing speed
 - From 10 BN/sec to 40+ BN/sec

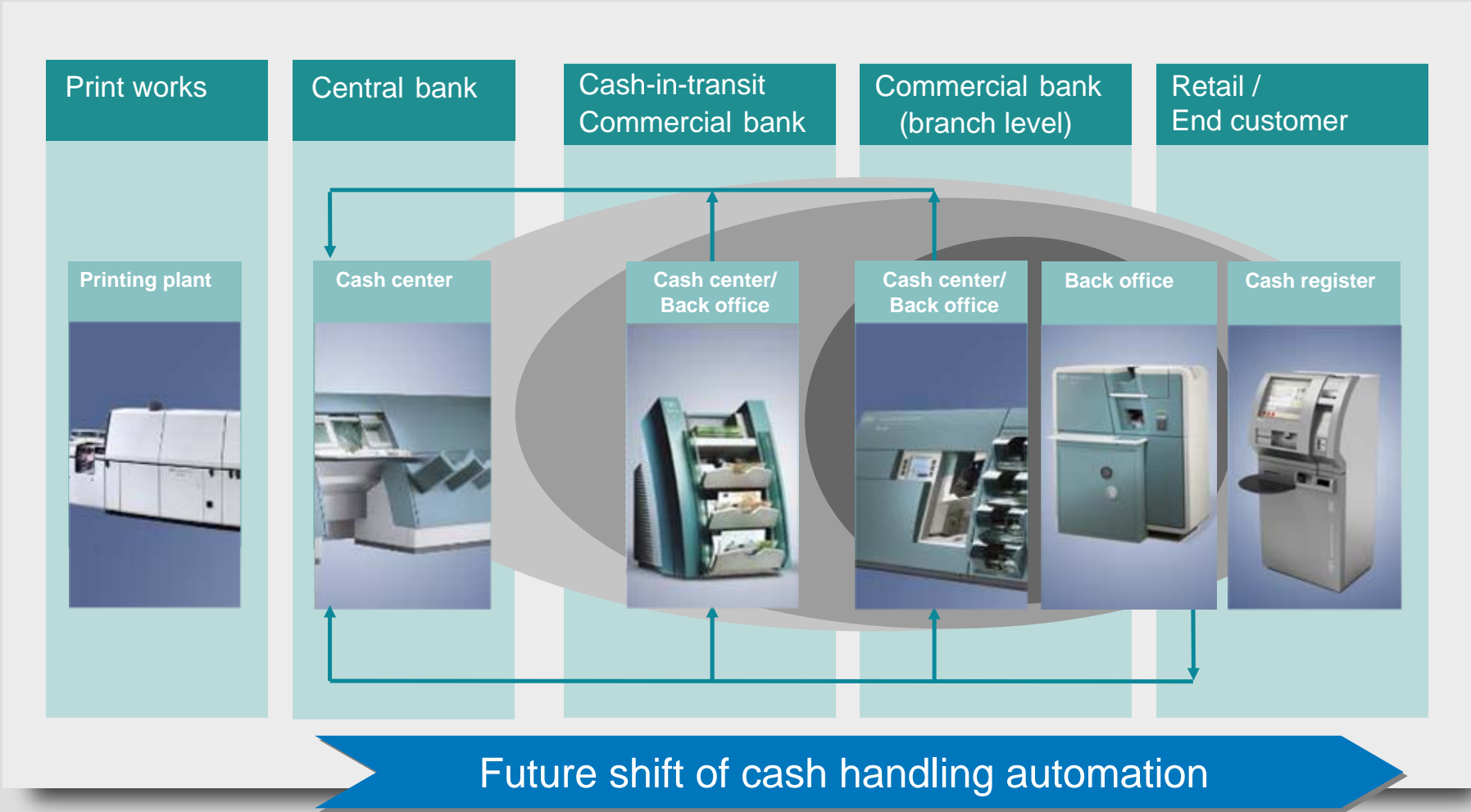


Processes

- Organizational processes
 - New objectives require new processes
- Cash cycle
 - Recirculation shortens cash cycle
- Machine processes
 - Integration increases efficiency
 - From POS via packaging to destruction



Changes in the Cash Value Chain



Products (Roadmap)

■ Banknote

- Features
- Paper

■ Processing machines

- Xensor for ECB framework (brand new)
- Portfolio renewal till 2012
- Increasing speed (BN/sec)
- Adaptation insurance



Summary

- Volume and value of cash increases strongly in most regions
- Cash volume in circulation is affected by GDP, inflation, interest rates
- Central bank rules and regulations strive for optimization of the cash value chain
- Technology development enables cost reduction within cash value chain

▶ **... we support you
optimizing the cash highway**

