1990s:

IT		telCo		ICT
	+		=	

IT

- TCP/IP
- Router
- Leased Line

telCo

- SS7
- Switch (Analog/Digital)
- Dial-up

ICT 👍 👎
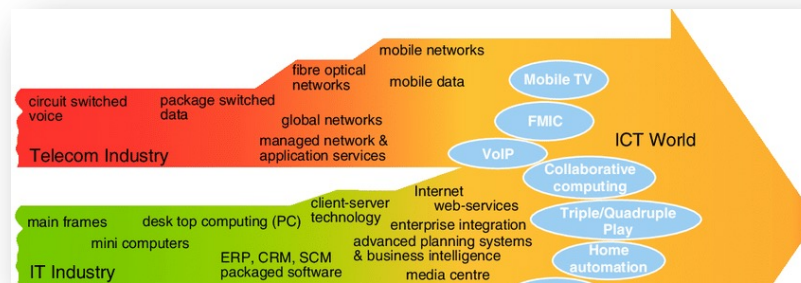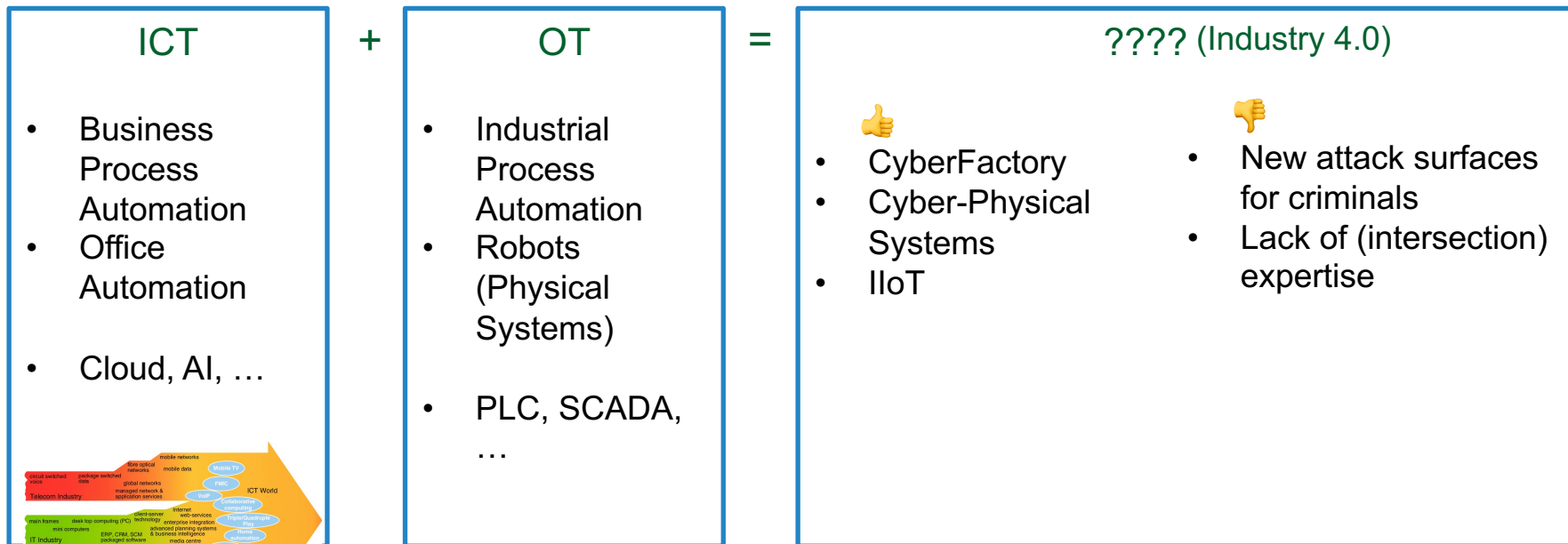
- VoIP
- NGN
- Mobil

- Protocol Wars
- Lack of (intersection) expertise
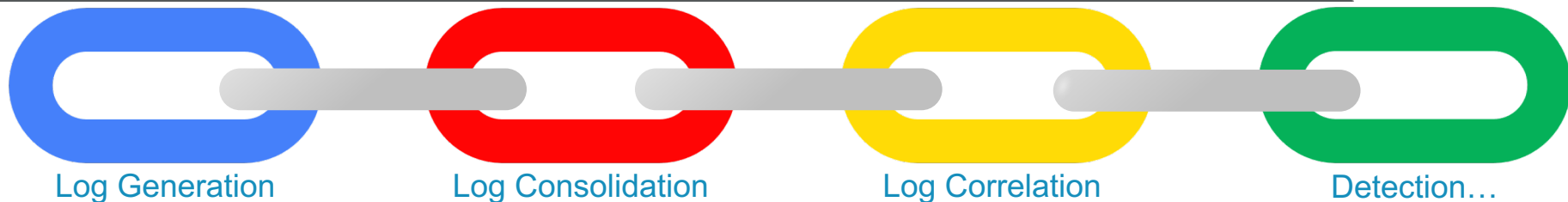- New attack surfaces for criminals

circuit switched voice — package switched data — fibre optical networks — mobile networks — mobile data — Mobile TV — FMIC — global networks — managed network & application services — VoIP — ICT World — Collaborative computing — Telecom Industry

main frames — desk top computing (PC) — client-server technology — Internet — web-services — enterprise integration — Triple/Quadruple Play — mini computers — advanced planning systems & business intelligence — Home automation — ERP, CRM, SCM packaged software — media centre — IT Industry

2015+

ICT	+	OT	=	???? (Industry 4.0)

ICT

- Business Process Automation
- Office Automation

- Cloud, AI, …

OT

- Industrial Process Automation
- Robots (Physical Systems)

- PLC, SCADA, …

???? (Industry 4.0)

👍
- CyberFactory
- Cyber-Physical Systems
- IIoT

👎
- New attack surfaces for criminals
- Lack of (intersection) expertise

Detection of Cyber Attack: Security Operations Center

Log Generation Log Consolidation Log Correlation Detection…

Enterprise IT

Logs: System Security Application

DC | LAN | DC | LAN/LOCAL | DC | LAN/FAST | HQ

OT

Logs: Sensor, Production, Error, System, Security Application

IoT devices

EdgeSIEM

Remote A
Remote B
Remote C

WAN | DC | LAN/LOCAL | DC | LAN/FAST | HQ
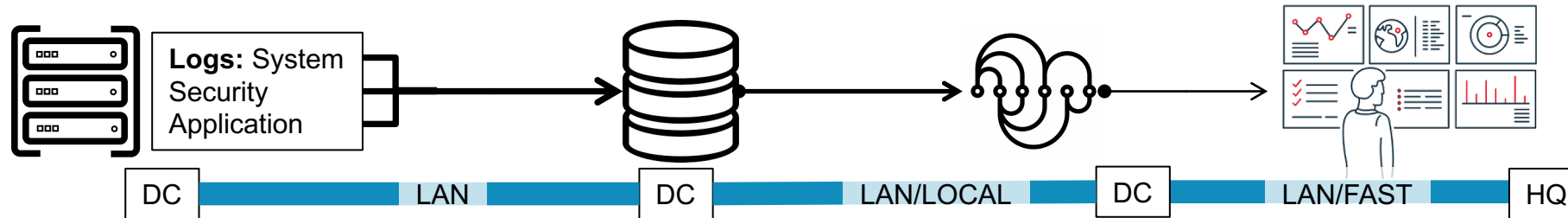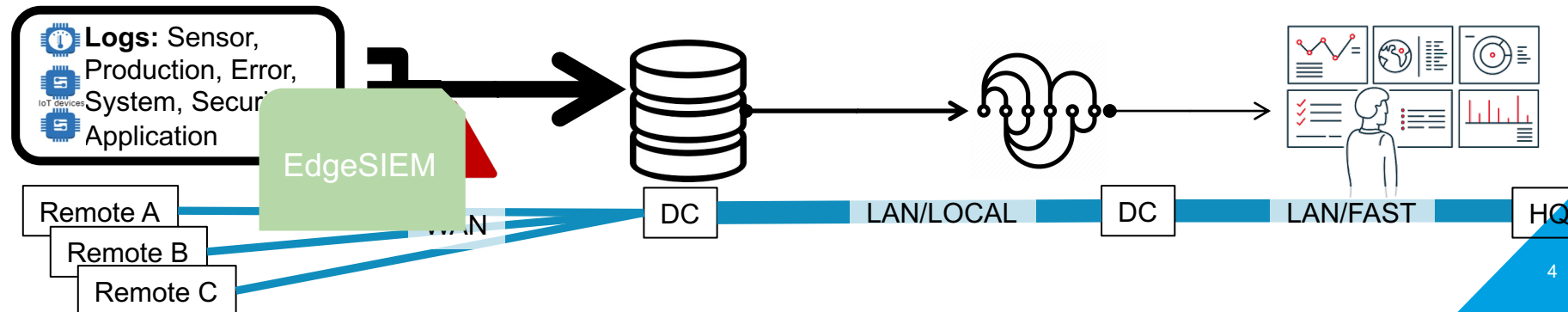
Edge SIEM - Lostar
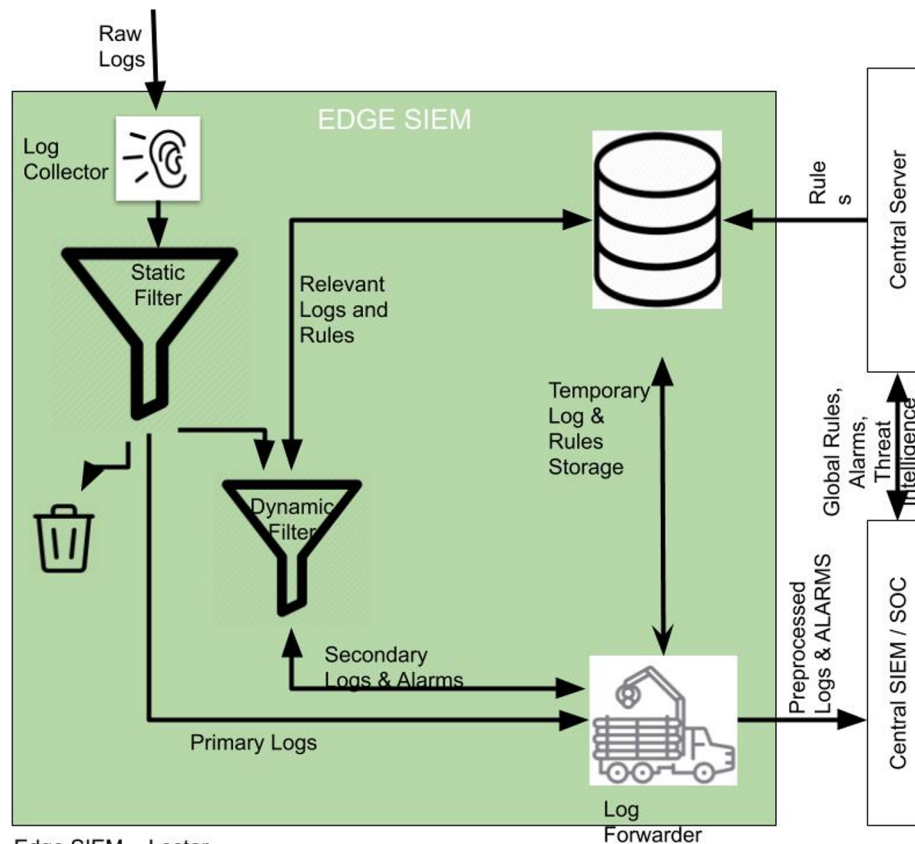
Murat Lostar

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