TIC 4.0

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MAJOR TECHNOLOGY TRENDS DRASTICALLY CHANGING POSSIBILITIES

BIG DATA
Real-time collection and processing of massive data from disparate sources

HARDWARE TO SOFTWARE
Smart objects that are autonomous or digitally controlled

AUGMENTED REALITY
Virtual extension of reality via additional visual layer to enhance reality

SMART SENSORS
Translation of physical inputs into digital ones processed by computers

UBIQUITOUS CONNECTIVITY
Spread of high-speed broadband & mobile connections

SHIFT TO THE CLOUD
Remote data storage accessed via network connection

NEW DEVICE INTERACTION MODELS
Ability to interface with technology through gesture and voice commands

IMPROVED DEVICE PERFORMANCE
Miniaturization and lower power consumption combined with faster devices

VIRTUAL COMMUNITIES
Emergences of digital platforms for exchange and collaboration
THREE MAJOR TECHNOLOGY TRENDS IMPACTING THE TIC INDUSTRY

**BIG DATA**
90% of data generated in the last 2 years – global IP traffic expected to grow at 23%

**SMART SENSORS**
Non-optical sensor market growing with +10% p.a. until 2018

**VIRTUAL COMMUNITIES**
Growing virtual communities providing new opportunities
SGS MODEL FOR PROFITABLE GROWTH THROUGH DIGITAL

FOCUS ON PROFITABILITY

DIGITALIZATION OF ACTIVITIES

ADVANCED DATA ANALYTICS

FOCUS ON PROFITABLE GROWTH

TIC FOR DIGITAL ENABLERS

ADVANCED DATA ANALYTICS

TIC FOR SYSTEMS OR PLATFORMS

MANAGEMENT OF SYSTEMS OR PLATFORMS
DIGITALIZATION OF ACTIVITIES

THE USE OF DRONES IN PRECISION FARMING
SUCCESSFUL USE OF DRONES IN PRECISION FARMING

THE MISSION

- Risk mitigation (i.e. evaluation of plant health)
- Reduce input costs or maximize yield

DATA ACQUISITION / PROCESSING: NDVI CARTOGRAPHY

THE OUTCOME

Early identification of nutrient problem enabled farmer to implement appropriate treatment during growing season - resulting in substantial savings
ADVANCED DATA ANALYTICS

ASSET TRACKING - SAVI TECHNOLOGY
In 2010, SGS and SAVI Technology developed SGS Omnis

SGS Omnis is a fully integrated supply chain visibility solution that helps organizations in virtually any industry overcome a lack of visibility into:
- location,
- status,
- security,
- and condition of high consequence business assets

SGS Omnis delivers real-time end-to-end visibility and security anywhere in the world (i.e. notifications, events, alerts about disruptions, change in ETA, etc.). SGS Omnis provides revenue securisation to Customs.
Shortly after, SAVI Technology and SGS decided to collaborate after SAVI developed SAVI Insight.

SAVI Insight is a SaaS analytics solutions that captures sensor data, correlates multiple variables and applies rules and logic that turn data into actionable information.

Savi analytic models continually learn from actual events to generate increasingly accurate predictions and recommendations every time data is collected.

- Improve ETA accuracy
- Reduce supply chain disruptions
- Improve cross-docking
- Improve labor planning

SGS and Savi identified new opportunities where SAVI Insight can be deployed rapidly.
SAVI’S HYBRID LAMBDA ARCHITECTURE

Built from proven, open source technologies including:

Reference architecture for

SGS AND SAVI TECHNOLOGY – THE WAY FORWARD

SGS OMNIS TO SGS ANALYTICS

- **2010-2012**
  Tracking solution for Customs and Tax Compliance

- **2012-2015**
  Supply chain visibility solution to assist Trade – protecting assets and properties

- **2015** – Introducing Analytics
  - Route optimisation
  - Real time data
    - traffic jam
    - regularly loaded areas
    - and its impact on traffic
  - Road and infrastructure
  - Road security
MANAGEMENT OF SYSTEMS / PLATFORMS

FOOD TRANSPARENCY SUPPLY CHAIN SOLUTION - TRACEONE
Sooner or later, everybody will discover critical information that might destroy:

- A reputation
- Consumer trust
- A company

Transparency is a new value that is becoming key for trust.
LIMITED VISIBILITY WITHIN THE FOOD SUPPLY CHAIN

Brand owners typically have no visibility beyond the first level of their supply chain.

VISIBILITY LAYER

- Fraudulent ingredients
- Unknown origins
- Unsafe facilities
- Undeclared allergens
- Unknown contact info

MANUFACTURERS

SUPPLIERS
IMPACT ON SHAREHOLDER VALUE OF THE LACK OF TRANSPARENCY

Source: Accenture analysis of 62 supply chain disruptions publicly announced during 2005-2011

Average drop in shareholder returns in approximately 7.0%

Disruptions affect stock price even before the announcement.

Stock prices do not recover for months after the announcement

AVERAGE LOSS OF SHAREHOLDER VALUE = 7%
THE FIRST B2B TRANSPARENCY SOCIAL NETWORK
SGS AND TRACEONE – AN **INDUSTRY SOLUTION WITH A UNIQUE VALUE PROPOSITION**

**BRAND**
- Recognized brand name in the industry, inspiring trust and confidence

**EXPERIENCE**
- Expertise and track record in food with global revenue in excess of CHF 0.7 bn in this industry
- Risk management (food safety, social, fraud)
- Data integrity and verification
- Recommendation of risk mitigation strategies
- Strategy implementation and monitoring their effectiveness

**REACTIVITY**
- Quick response time with possibility to mobilize resources all around the world

**GLOBAL FOOTPRINT**
- Experienced food back office personnel used to communicate with suppliers in a variety of geographies
- Experienced in managing large-scale global projects across all regions

**BRAND**
- Private Label PLM Market leader (EUR 40 Mio revenue)

**EXPERIENCE**
- Proven track record in the food industry
- 20,000+ Private Label suppliers representing 600,000+ raw materials suppliers connections
- $300bn equivalent value spent on platform
- Founded in 2001 in France. Privately owned. Offices in Europe and USA, 250 FTE

**TECHNOLOGY**
- State-of-the-art IT platform (Graph data base)

**DESIGN**
- Solution built on a user friendly platform designed with simplicity in mind
TRUST IS A DRIVER FOR GROWTH
Volume refers to the “mass quantities of data that organizations are trying to harness to improve decision-making across the enterprise”

Variety refers to the complexity of multiple data types, “including structured, semi-structured and unstructured data”

Velocity refers to the speed at which data is created, processed, and analyzed

Veracity refers to the “level of reliability associated with certain types of data”