COVID-19 impact

A Yole Perspective
At the same time, or in close proximity, there have been various situations or shocks undermining global sustainability and the global economy.

WHAT HAS HAPPENED

- Q1 2020
  - Spread of COVID-19 around the world

- Q1 2020
  - Oil Price shock between Russia and Saudi-Arabia

- Q1 2020
  - General or partial lockdown, progressively around the world

- December 2019
  - The first official case of COVID-19 has been confirmed in China

WHAT COULD HAPPEN

- Snow-ball effect!

- 2021-2022
  - Geographic supply chain reorganization

- 2021-2022
  - Looming economic and financial crises

- Q3–Q4 2020
  - Revival of USA-China trade war

- Q1–Q2 2020
  - Historical economic recession due to simultaneous negative shock on supply and demand
COVID-19 pandemic effect has been worsened by other factors:
- In March 2020, an oil price war began between Russia and Saudi Arabia, and the demand for oil products dramatically decreased due to the lockdown!
- The trade war between the USA and China seems to have been relaunched as a result of tension over China’s management of the health crisis.
WHAT IS THE EFFECT OF SIMULTANEOUS NEGATIVE SUPPLY AND DEMAND SHOCKS?

A significant reduction in the generated wealth

- Simultaneous negative supply and demand shocks on economy make initial curves S & D move to new curves $S_c$ & $D_c$;

- Compared to equilibrium situation, we have:
  - Strong destruction of the wealth created by producers (they sell at a slightly higher price but in greatly reduced quantities);
  - Large loss for consumers who pay a slightly higher price though strongly reduce the quantities consumed.
DIFFERENT IMPACTS ON DIFFERENT MARKETS

How strong is the negative impact on the market

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High

Medium

Low

Time Scale

Short-term (6 months to 1 year)

Mid-term (1 year to 3 years)

Long-term (3 years +)

Automotive & Mobility

Civil aviation

Automotive

Industrial

Telecom & Infrastructure*

Mobile & Consumer

Medical

Defense & Aerospace

* This includes both wired and wireless telecom (although dynamics are different for each, we believe confinement is a factor pushing the deployment of new technologies for 5G, data centers, transceivers …)
COVID IMPACT: 2020 MARKET DATA

- Devices for which COVID-19 will have little/no impact
- Devices that will be negatively impacted by COVID-19

Market value ($M)

Shipment (millions)

- DRAM (exabits)
- NAND (GB)
- CIS
- APU
- Radar
- Thermal Imagers
- Thermal Detectors
- Fan Out
- BioMEMS
- Point of Need
- Sensing and Computing for ADAS
- Point of Need
- BioMEMS
- Fan Out
- Thermal Detectors
- Thermal Imagers
- APU
- Radar
- DRAM
- NAND

Devices that will be negatively impacted by COVID-19:
- Sensors for Robotic Vehicles
- Radar
- GaAs (6” wafers)
- SiC (6” wafers)
- Si Photonics
- AI hardware in Automotive
- Power GaN (6” wafers)
- RF GaN (4” SiC & 6” Si wafers)
- Computing hardware for HPC
- Computing hardware for Cloud Gaming

Devices for which COVID-19 will have little/no impact:
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