



2020 Results

■ Kalray MPPA®

The Processor at the Heart of New Intelligent Systems

April 20th, 2021

THE SPEAKERS



Eric Baissus
Executive Board Chairman

20 years' experience as senior executive for major telecom (Alcatel-Lucent) and electronics (Texas Instruments) groups, startup director.

Founder and CEO of Open-Plug (2002): high-tech firm sold to Alcatel-Lucent in 2010.



Anne Gabrot
CFO

20 years' experience as CFO for major telecom groups and tech startups.



Agenda

1. Kalray in a Nutshell
2. 2020 Financials
3. Business Outlook
4. Q&A



KALRAY IN A NUTSHELL

Kalray offers a new type of **processor** targeting the **booming market of intelligent systems & edge computing**

A Global Presence

- France (Grenoble, Sophia-Antipolis)
- USA (Los Altos, CA)
- Japan (Yokohama)
- Canada (Partner)
- China (Partner)
- South Korea (Partner)



Leader in Manycore Technology

3rd generation of MPPA[®] processor

≈€100m
R&D investment

30
Patent families

Industrial investors



- Public Company (ALKAL)
- Support from European Govts
- Working with 500 fortune companies

Financial investors: CEA Investissement, Bpifrance, ACE, INOCAP Gestion, Pengpai

2020 KEY FACTS

BUSINESS

Finalized the developments of **Coolidge™** -based solutions

Customer solutions under development

First customer products announced

FINANCIAL

2020 in line with expectation

Secured new funding in order to **maintain a high level of technological investments**

Maintained a particularly **healthy** financial situation

ENVIRONMENT

Managed the COVID-19 situation with focus on **minimized impact** on product **development**

Booming semiconductor market due to growing structural needs

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Annual results in line with expectations

MPPA®

The Processor at the Heart of Intelligent Systems



REVENUE 2020 & CASH MANAGEMENT



IN LINE WITH EXPECTATIONS

- 2020 sales revenues (€1.0M) similar as 2019, as volume production not yet started
- OPEX growth lower than forecasted (+10%) & EBITDA comparable to previous year (-5%)



CASH POSITION

- Good management of free-cash flow
- Strengthened financial structure :
 - + €8M strategic investment from NXP
 - + €5M of State Guaranteed loan (PGE)
 - + €5.2M from private placement (ABB)
- Cash position at €20.2M (vs €15.7M end 2019)



MANAGEMENT OF THE COVID-19 CRISIS

- Efficient organization – home office and rotations
- Focus on digital communication & events for business development



HR

- No partial unemployment
- Continuous investment in human resources:
 - + 10 people in 2020, mainly for engineering and support positions, despite full remote organization

INCOME STATEMENT - 2020

Consolidated and audited data – (€000)	2019	2020
Net sales	1,265	1,033
Capitalized production (R&D)	6,217	7,579
Subsidies	1,942	2,127
Other revenue	142	17
TOTAL REVENUE	9,566	10,756
Cost of sales	(257)	(307)
Operating expenses	(14,871)	(16,311)
<i>of which Salaries and social contributions</i>	<i>(7,932)</i>	<i>(9,257)</i>
<i>of which other operating expenses</i>	<i>(6,939)</i>	<i>(7,054)</i>
EBITDA	(5,562)	(5,862)
Depreciation and amortization expenses	(5,867)	(8,818)
Operating profit/(loss)	(11,429)	(14,680)
Research tax credit (CIR)	2,415	2,993
Adjusted operating profit/(loss)*	(9,014)	(11,687)
Financial income/(loss)	3	(110)
Exceptional income/(loss)	(74)	(22)
Net profit/(loss)	(9,085)	(11,818)

Sale of boards and development platforms to customers in the product evaluation and development phases

Licenses & services : €690K (€980K in 2019) + Products: €342K (€285K in 2019)

Increase in capitalized production due to R&D developments on Coolidge™

+17% increase in headcount expenses

Average 2020 headcount increased of +14% (from 76 in 2019 to 86 in 2020). 90 employees at end 2020.

Flat "other expenses"

Control of onsite subcontractors' expenses
Reduction of travel expenses due to Covid-19 crisis

Up €2.9M. Full year of amortization for Coolidge™ developments (€6.6M) and masks (€1.2M)

Stable EBITDA

* Adjusted operating result = operating result + research tax credit

CASH FLOW STATEMENT - 2020

Consolidated and audited data – (€000)	2019	2020
Operating cash flow before change in working capital	(5,204)	(5,092)
Change in working capital	1,138	(528)
Operating cash flow	(4,066)	(5,620)
Capex	(5,335)	(2,920)
R&D capitalization	(6,217)	(7,579)
Investment subsidies	1,431	1,065
Investment Cash-flow	(10,121)	(9,434)
Free cash flow	(14,187)	(15,054)
Net Cash from investors	96	13,551
Bank Debt (net)	318	4,756
R&D conditionnal advances and prepaid subsidies (net)	716	1,260
Cash flows from financing activities	1,130	19,567
Change in cash and cash equivalents	(13,057)	4,513
Opening cash balance	28,782	15,725
Closing cash balance	15,725	20,238

Back to normal for CIR cash in in 2020 (2 R&D Tax credits in same year in 2019)

No tape out in 2020

Good management of the cash consumption over the 2020 financial year

NXP investment (€8.0M) + ABB private placement (€5.3M)

PGE (loans guaranteed by French State) of €5.0M in 2020

Prepaid subsidies (€0,9M)+ R&D advances (€0,4M net of reimbursements)

€20.2M NET CASH to pursue the roadmap and Coolidge™ go to market

BALANCE SHEET 2020

ASSETS (K€)	as of 31/12/19	As of 31/12/20	LIABILITIES & EQUITY (K€)	as of 31/12/19	As of 31/12/20
Intangible assets	16,935	19,115			
Tangible assets	4,673	4,286	EQUITY	26,665	28,434
Financial assets	609	620	Provisions	89	112
NON CURRENT ASSETS	22,217	24 020	R&D refundable advances	5,904	6,306
Inventories	240	134	Bank loans	775	5,531
Accounts Receivable	764	526	Accounts Payable	3,128	2,776
Other receivable (CIR, Subsidies)	1,779	2,165	Taxes & contributions payable	1,549	1,487
Cash	15,725	20,238	Other debts	354	124
CURRENT ASSETS	18,508	23,063	DEBTS & LIABILITIES	11,799	16,336
Accrued expenses	414	420	Deferred revenue (Subsidies)	2,676	2,734
TOTAL ASSETS	41,140	47,503	TOTAL LIABILITIES & EQUITY	41,140	47,503

1 Including Coolidge™ for €18,6 M

2 Including Coolidge™ mask set for €2.5M

3 CIR prefinancing guarantees & cash on liquidity contract

PGE (loans guaranteed by French State) of €5.0M in 2020 Amortizable over 4 years starting in 2022

Consolidated and audited data (K€)

FINANCIAL OBJECTIVES FOR 2021

2021, on the way to production ramp-up

REVENUE

**TARGET SIGNIFICANT
GROWTH**

**SEVERAL MILLION
OF € IN 2021**

CASH

- **FINANCIAL NEEDS COVERED UNTIL EBITDA BREAK-EVEN**
 - New equity line (up to €12.0M) with Kepler Cheuvreux
 - +€3.0M at the end of March 2021
- **MAINTAIN THE FINANCIAL DISCIPLINE & 20% INCREASE IN OPEX**
 - Full effects of recruitments in 2020 (and scheduled for 2021) & ramp-up of new programs (including NXP)

TARGET : ↗ €100M IN FY 2023

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2021 – THE “KALRAY INSIDE”YEAR

Wistron & Kalray launch FURIO1200™ Storage Appliance



wistron



Kalray at the heart of the automotive leader NXP's "BlueBox 3.0"



NXP Announces the BlueBox 3.0 Development Platform
for Safe Automotive High-Performance Computing

x 628

Automotive

MPPA[®]

The Processor at the Heart
of Intelligent Systems



NXP ANNOUNCED THE BLUEBOX 3.0 with “KALRAY INSIDE” at CES 2021

YouTube | NXP - Design with us
Introducing NXP's BlueBox 3.0 Automotive High Performance Compute Development
Platform ▾

<https://www.youtube.com/watch?v=pGXHt6x6ubU>

Introducing BlueBox 3.0
Next Generation Automotive
High Performance Compute
Development Platform

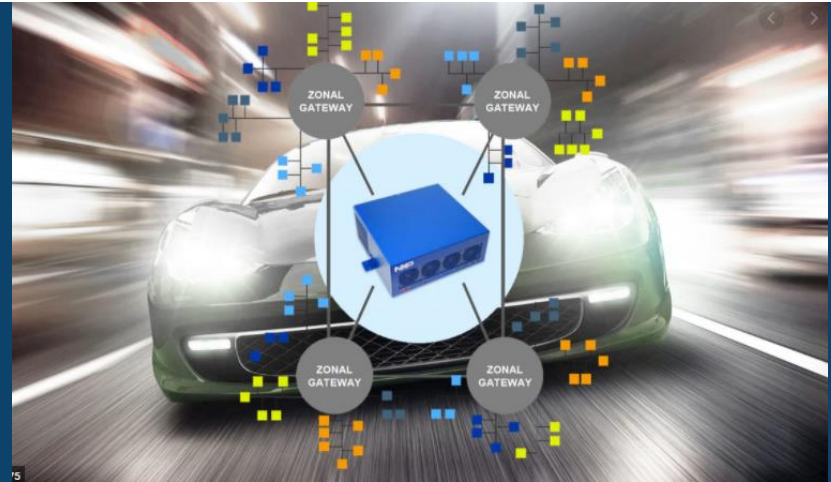


BLUEBOX 3.0

Automotive High Performance Compute Platform

TO ADDRESS VEHICLE ARCHITECTURE TRANSFORMATION

- High performance compute
- Advanced Driver-Assistance Systems (ADAS) & Autonomous Driving (AD)
- Safety
- Flexible and easy prototyping
- Increased performance



H1-2021

Deployed by NXP
worldwide

KALRAY STRATEGY IN AUTOMOTIVE INDUSTRY WITH NXP

How to Scale with our NXP Partner



**KALRAY AT THE HEART
OF THE AUTOMOTIVE LEADER NXP'S
BLUEBOX 3.0
Co-development Insured
By Kalray & NXP**



NXP SUPPORT



**NXP WORLDWIDE SALES
& FAEs FORCES**



SOFTWARE PARTNERS

OEMs & TIER1

Data Center



MPPA[®]

The Processor at the Heart
of Intelligent Systems

KALRAY MULTI-PURPOSE ACCELERATION CARD

A Single Card for Intensive Workload in Data Centers

NVMe-oF storage solutions

- JBOF
- Hybrid JBOF / JBOD
- Disaggregated storage servers

Software defined, composable
& hyper-converged storage solutions

AI storage container

Computational storage

STORAGE



EDGE COMPUTING HPC



Compute acceleration
AI Inference acceleration

New Distributed
Platform nodes

SSL / TLS offload

Encryption / Decryption offload

New data center security
models

SECURITY



NETWORKING

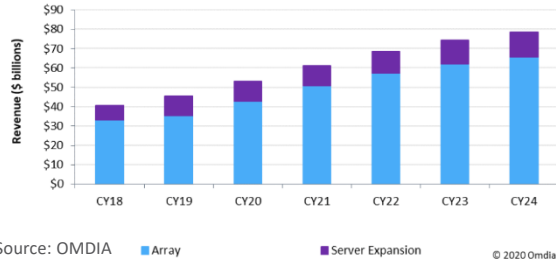


Next Gen SmartNIC

SDN Acceleration
(OpenvSwitch, SD-WAN,
NAT...)

KALRAY MARKET FORECAST (SAM)

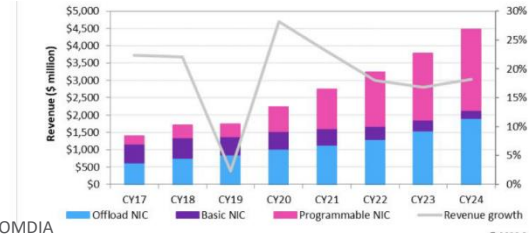
Smart Storage



- Market is moving away from expensive OEM specific SAN storage solutions to NVMe-oF on-the-shelf solutions
- Market is Storage Expansion Market
- Switching to NVMe-oF

Source: OMDIA

Programmable NIC



- Need to improve performance of the VNF (Virtualized Networking Functions), security functions via fully programmable NIC

Source: OMDIA

2023

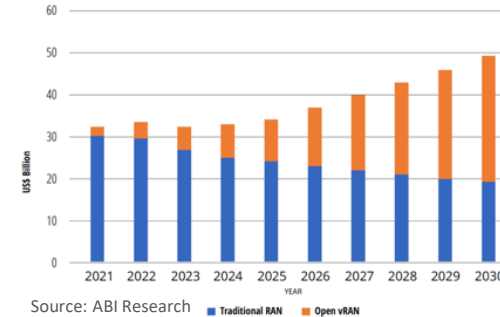
Acceleration Card Market Size

Data Center / Telecom = \$3,3B (4,5 mu Cards)

Kalray Targets

Data Center / Telecom = \$100m (100 ku Cards)

Telecom Market (R)Evolution



- Telecom Infrastructure is facing a major (r)evolution
 - Telco « Edge Computing », Open RAN
 - « Software-defined » Network et Stockage
 - Need for acceleration

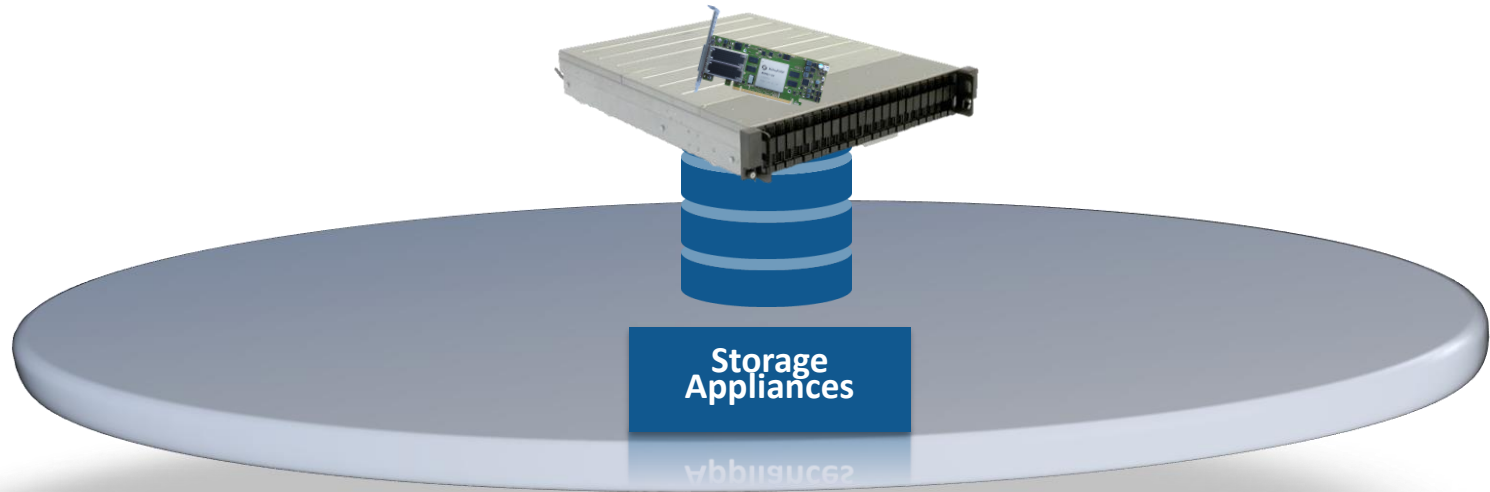
KALRAY SMART STORAGE ADAPTER

Building the Next Generation of
Storage Solutions with MPPA® Technology



KALRAY SMART STORAGE OFFER

Storage Appliance Offer



FURIO1200™

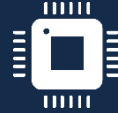
The First “KALRAY INSIDE” Server Available on the Market

wistron



FURIO1200™

Co-developed by Kalray & Wistron



Coolidge-based – no need of x86
1 to 6 K200 Cards



Ultra-fast : 12MIOPS / 72 GBs



High Capacity : 24 U2 SSDs



NVMe-oF compliant – TCP & RoCE



Support of in-line data services
(data protection, encryption, ...)



Open and Upgradable

FURIO1200™

Best in Class NVMe-based Flash Array

	FURIO1200™	Best Current Generation
DPU	Kalray MPPA	N/A
NUMBER OF DPU	2 to 6	N/A
ARCHITECTURE	Scale up, out	Fixed
MEDIA	NVMe SSD	SAS SSD NVMe SSD
HOST SUPPORT	NVMe-oF/TCP NVMe-oF/RoCE	NVMe-oF/RoCE NVMe/FC IB, FC, iSCSI
HOST PORTS	12 x 100 Gb/s	8 x 100 Gb/s
END TO END NVMe	yes	no
IOPS (in millions)	12	2
LATENCY (us) - ROCE	20us	100+ us
LATENCY (us) - TCP	50us	Not Supported
BANDWIDTH (GB/s)	72	44
DATA PROTECTION	Erasure Coding / RAID	RAID
MANAGEMENT	Rest API	Proprietary
PROGRAMMABLE / FRAMEWORK	Yes / SPDK	No
IOPS / WATT	16,000 (IOPS/WATT)	2,040 (IOPS/WATT)



KEY BENEFITS

- Best performance (x6)
- Best consumption (x8)
- Future proof (new data services)
- Open & Scalable

- Based on generally available data on the web
- Information is subject to change and is not contractual

NVMe-oF IS A BREAKTHROUGH In the Multi-Billion \$ Storage Appliance Market



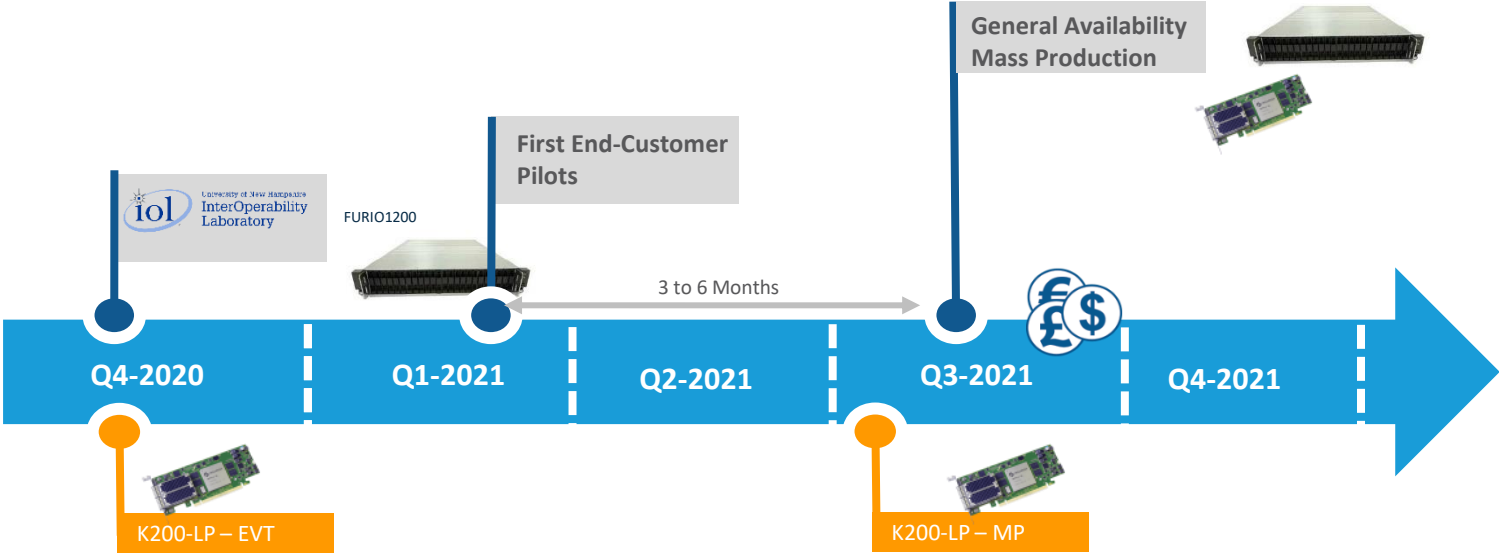
Dennis Hahn
Senior Analyst, Cloud & Data Center at OMDIA*

“NVMe-oF JBOF is just starting to experience an uptake in on-premises enterprise DC segments for its ultra-high performance. It is ramping aggressively for use by hyper converged infrastructure and in data intensive applications.”



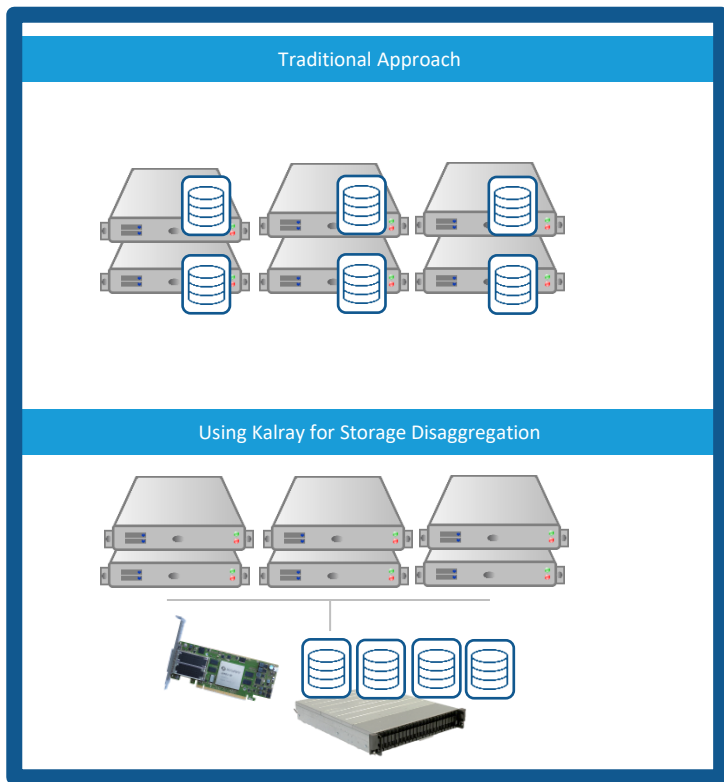
** Data Center Storage Equipment Market Tracker Q1 2020 Report*

KALRAY STORAGE SOLUTION MARKET DEPLOYMENT SCHEDULE



PILOT EXAMPLE 1: COST OPTIMIZED SSD STORAGE DEPLOYMENT

Customer: Cloud Service Provider

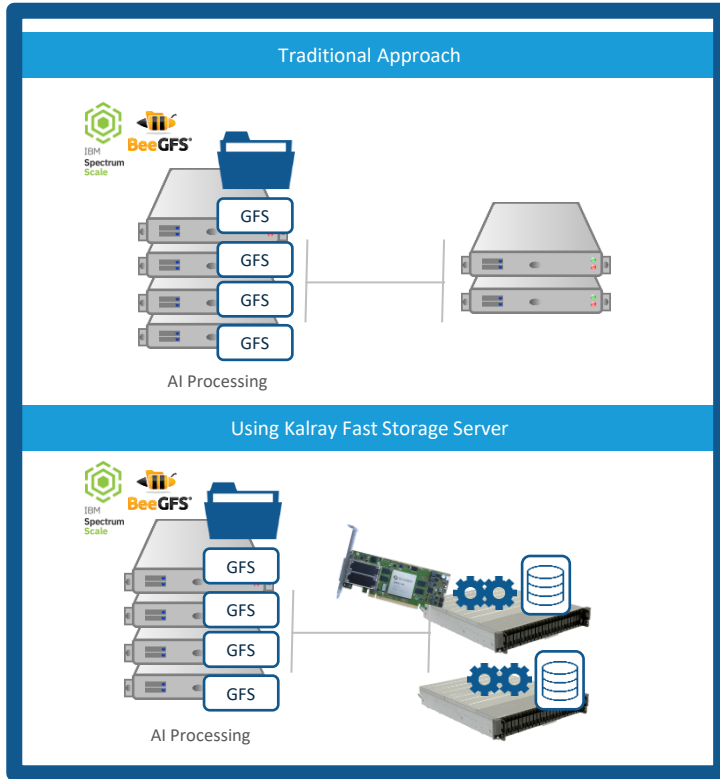


CUSTOMER SUCCESS CRITERIA

- Similar performance versus direct attached SSD
- Same robustness as traditional approach
- Total 30 to 50% cost saving

PILOT EXAMPLE 2 : SCRATCH BUFFER FOR AI ACCELERATION

Customer: HPC Data Center

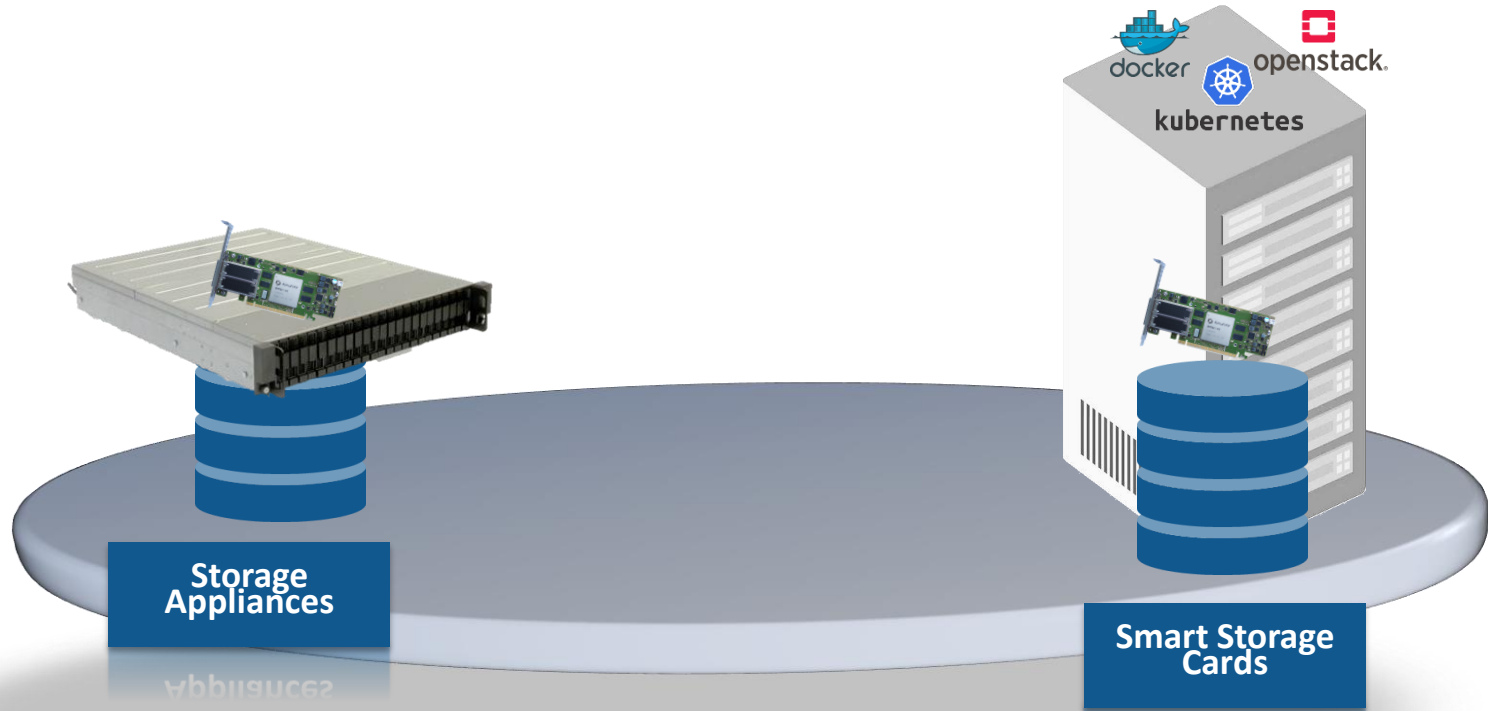


CUSTOMER SUCCESS CRITERIA

- Increase performance by 2 to 5 for AI training
- Ease to integrate with standard file systems such as BeeGFS

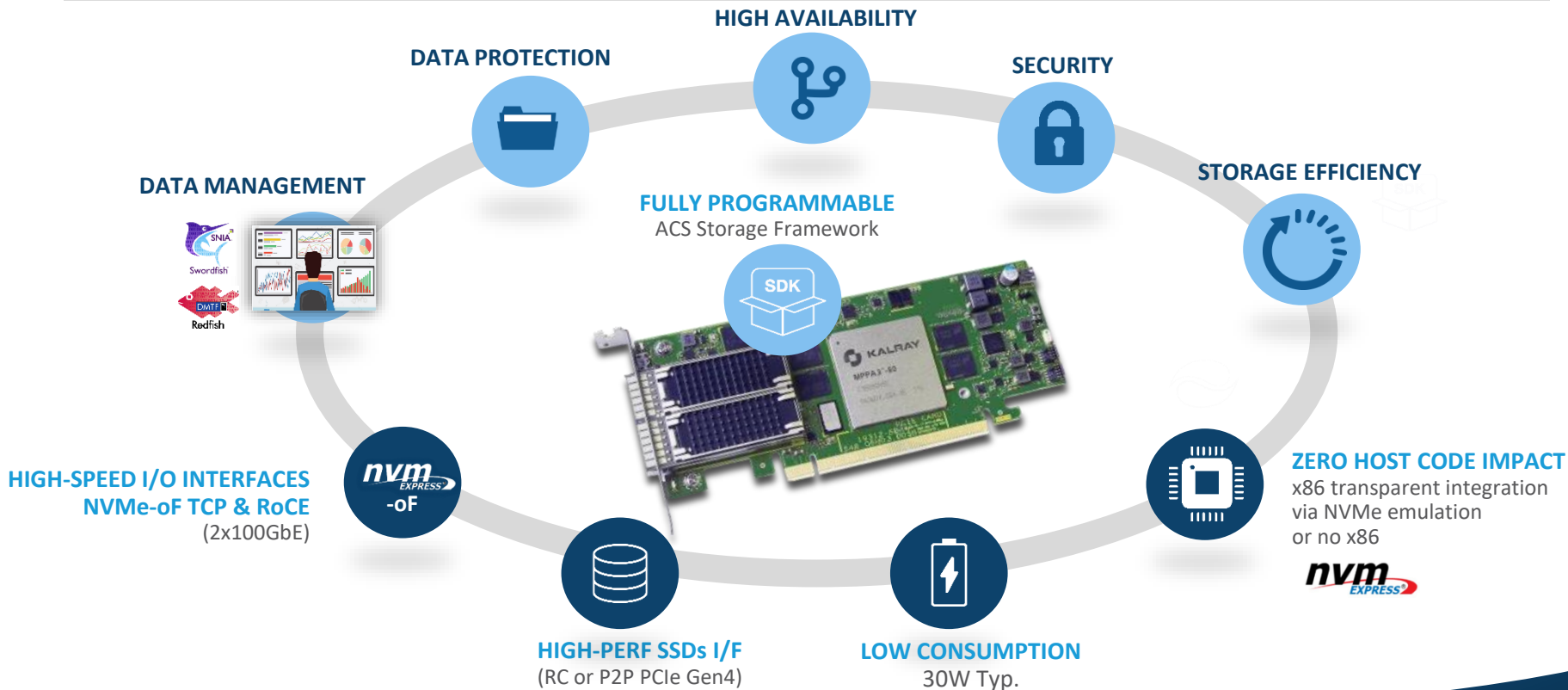
KALRAY SMART STORAGE ADAPTERS

What is Next?



KALRAY SMART STORAGE ADAPTER

Build Next Generation High Perf, Secure, Scale Out, NVMe-oF Storage



FOCUS ON THE INDUSTRIAL & LOGISTICAL PROCESSES TO SCALE



**KALRAY & WISTRON SET-UP
MANUFACTURING CAPABILITIES
TO MANUFACTURE,
TEST & DELIVER
1,000 OF BOARDS PER MONTH
STARTING Q3-2021**

ON THE ROAD TO BUILD THE FUTURE EUROPEAN CHAMPION OF INTELLIGENT PROCESSORS

TWO PRIORITY MARKETS

STORAGE MARKET



Volume ramp-up of Kalray-based card and solutions

AUTOMOTIVE MARKET



Leverage strategic partnerships to position as a key component of next gen vehicles

OTHER TARGETS

ADJACENT MARKETS – FUTURE REVENUE



Smart Vision / 5G

NEXT GEN. (2024/2025) : THE DOLOMITES REVOLUTION



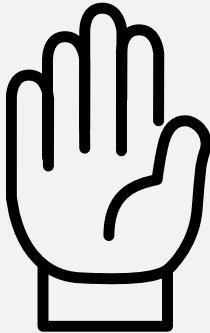
Leverage eco-system & France / European funding to create a unique sovereign solution for Europe

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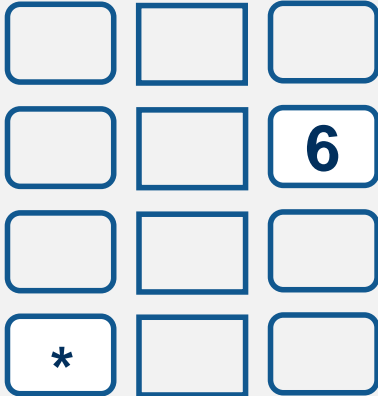
Q&A SESSION



MICROSOFT TEAMS



"Hands Up" button



PHONE



Keys " * " then " 6 "

KALRAY STOCK MARKET DATA

STOCK EXCHANGE

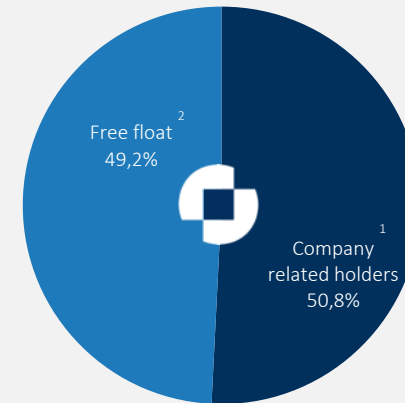
- **Market:** Euronext Growth
- **Name:** KALRAY
- **ISIN code:** FR0010722819
- **Ticker symbol:** ALKAL
- **Share price:** €39.60 (at 19/04/2021)
- **Number of shares:** 5,516,514
- **Market capitalization:** €218m (at 19/04/2021)



NEXT MEETING

12th July 2021, H1 2021 Activity report

SHAREHOLDING - AS OF MARCH 31, 2021



¹ including Alliance Ventures, MBDA, NXP, Pengpai, and Safran

² Euronext definition

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