

KALRAY

FULL YEAR RESULTS 2022

Investor Presentation – April 2023

Intelligent Data processing,
from Cloud to Edge

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Eric Baissus

Executive Board Chairman

25 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.



Denis Scherrer

Chief Financial Officer

30 years of experience in finance, accounting, audit and business operations in semi-conductor (Siemens, Memscap, Soitec), Telecom and facility management (Sodexo).



AGENDA



- Kalray in a Nutshell
- 2022 Key Facts
- 2022 Financials
- 2023 Outlook
- Q&A

KALRAY IN A NUTSHELL

Intelligent Data Processing, from Cloud to Edge



Kalray offers a new type of **processor** (DPU¹) and **solutions** targeting the booming markets of **data-intensive applications**

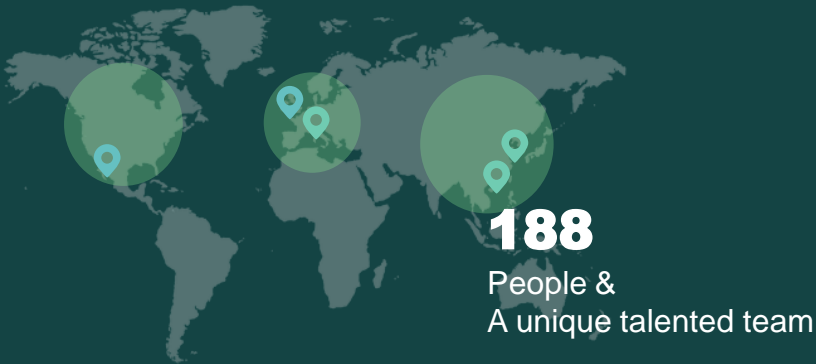
LEADER IN MANYCORE DPU TECHNOLOGY

3rd
Generation of MPPA[®] processor

+ €180m
R&D investment

30
Patent families

A GLOBAL PRESENCE



LEADING CUSTOMERS & PARTNERS



INDUSTRIAL INVESTORS



A FAST-GROWING LISTED COMPANY



⁽¹⁾ DPU : Data Processing Unit

A COMPLETE OFFER FOR DATA-INTENSIVE APPLICATIONS

From Chips to Software Solutions



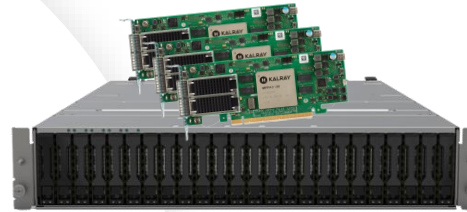
**A UNIFIED
VALUE PROPOSITION**



KALRAY
THE POWER OF MORE



PCIe Cards



Reference Solutions



MPPA® DPU
Processors



Data Management & Storage
Software Solutions

**PROCESS DATA,
SMARTER, MORE
EFFICIENTLY &
SECURELY,
NO MATTER WHERE
THEY RESIDE**

DATA-INTENSIVE APPLICATIONS ARE EVERYWHERE



DATA CENTERS



EDGE COMPUTING & AUTOMOTIVE



5G



LIFE SCIENCES



ARTIFICIAL INTELLIGENCE



MEDIA & ENTERTAINMENT



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2022 A CHANGE IN DIMENSION



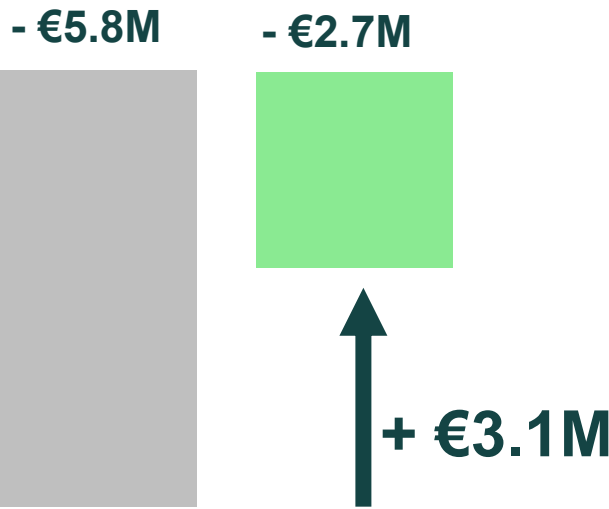
1

RECORD REVENUE IN 2022 STRONG EBITDA IMPROVEMENT

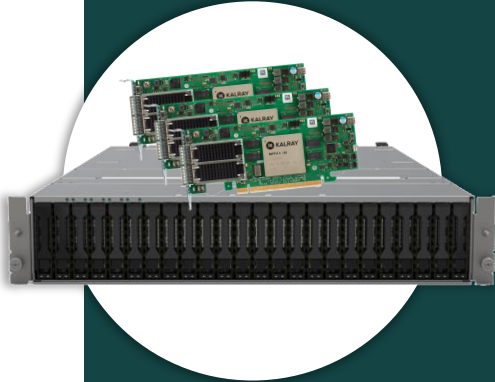
Consolidated Revenue ⁽¹⁾



Consolidated EBITDA ⁽¹⁾



**Kalray
K200-LP™**
Acceleration cards



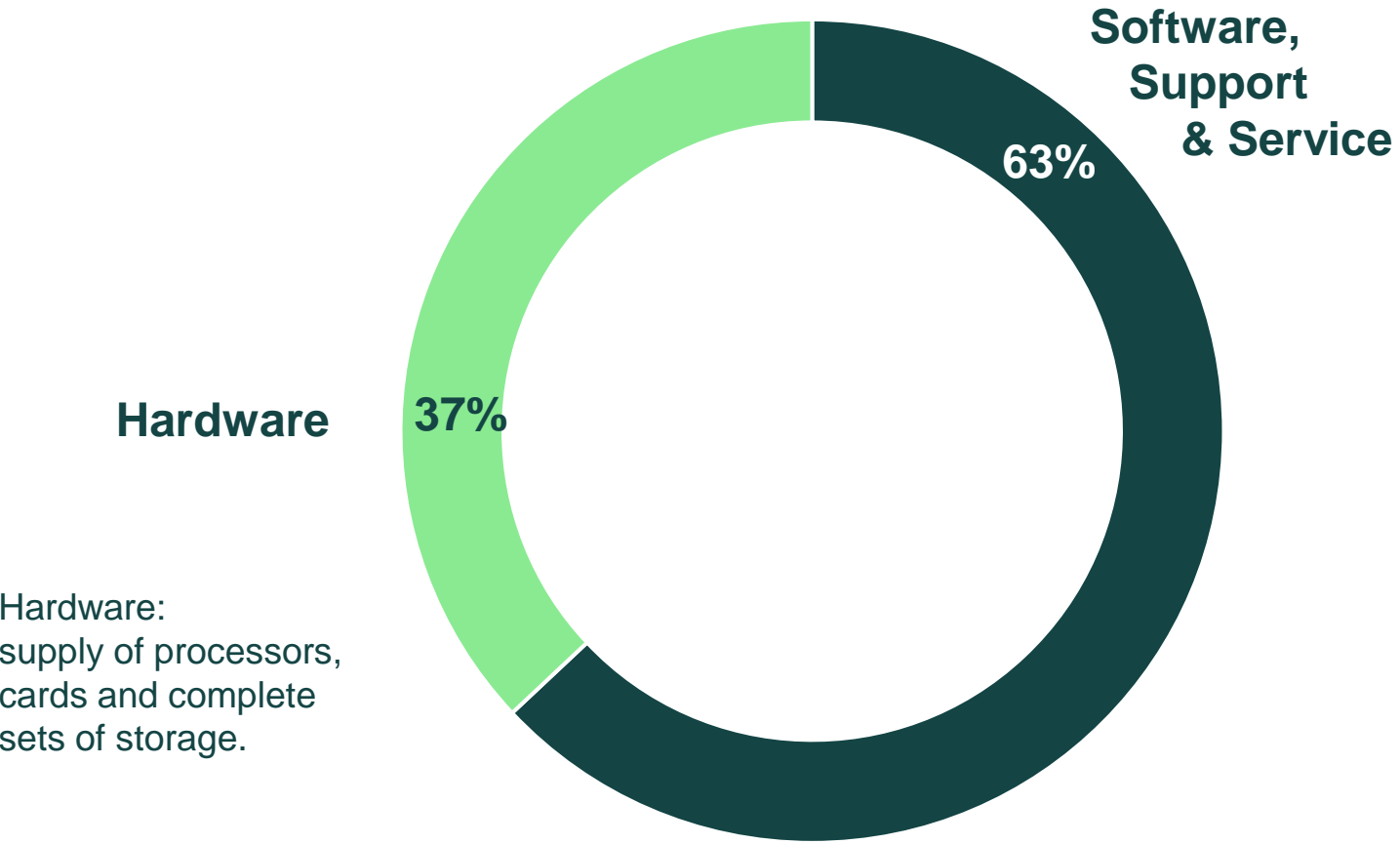
**Kalray
Flashbox™**
Storage appliances



**Kalray
pixstor™
& ngenea®**



REVENUE BREAKDOWN



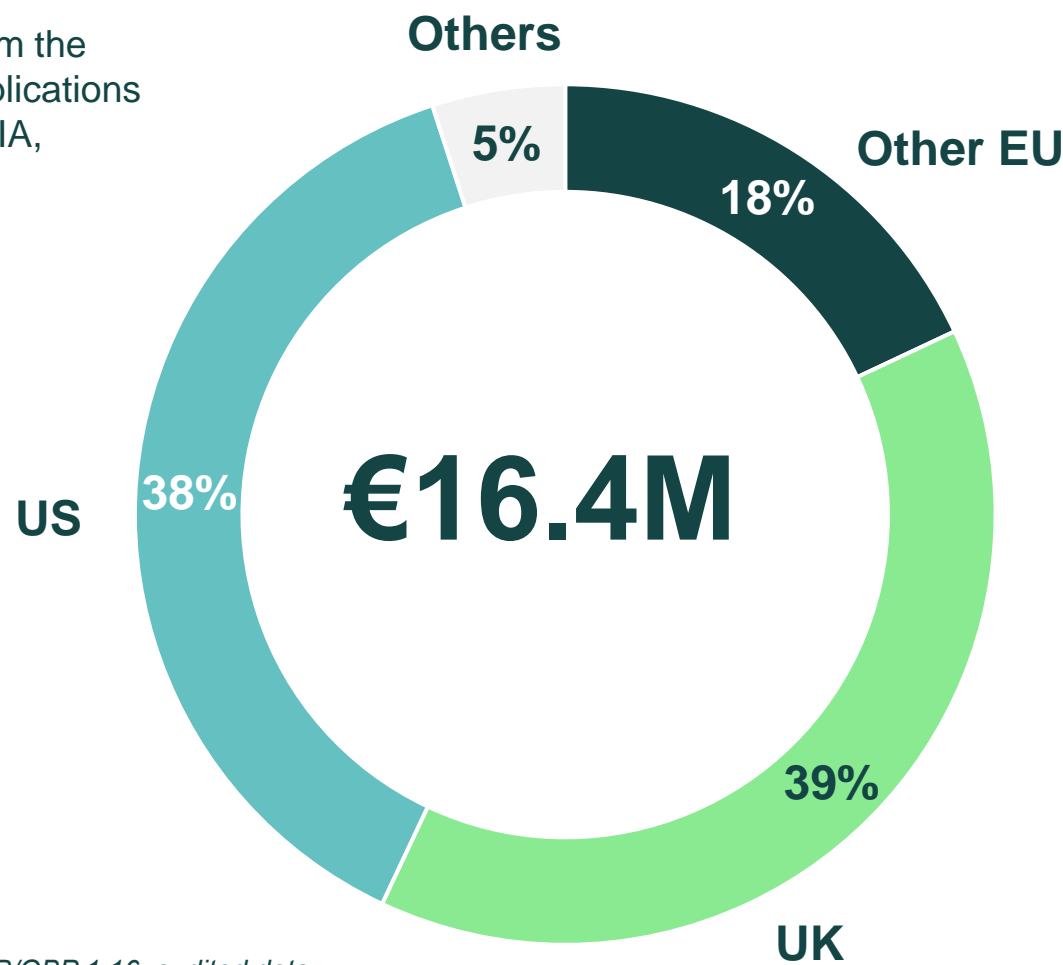
Hardware:
supply of processors,
cards and complete
sets of storage.

**STORAGE MARKET,
WELL BALANCED
HARDWARE AND
SOFTWARE**

REVENUE BREAKDOWN

Consolidated Revenue by Geographic Areas

Mainly coming from the data-intensive applications growing markets (IA, finance, media, research..)



Exchange rate EUR/GBP 1.16. audited data

A BALANCED
BREAKDOWN IN
GEOGRAPHICAL AREAS
(EU AND NON EU)



2

A FIRST “JUMBO” CONTRACT SIGNED



**Design-in contract signed
with a MAJOR
INTERNATIONAL
COMPANY**



**A potential of several
TENS OF MILLIONS € / YEAR
over several years**

3 A GLOBAL PARTNERSHIP WITH DELL TECHNOLOGIES

- **DELL ETC PROGRAM**

Kalray joined the selective **Extended Technologies Complete (ETC)** Dell Technologies program as a **Core Partner** (10 key partners worldwide)

- **HPC & UDS DELL DIVISIONS**

Kalray solutions (ngenea® and pixstor™) are promoted by 2 Dell's storage divisions (HPC & UDS)

- **RESELLING AGREEMENT**

Reselling agreement of Kalray solutions in place



**COLLABORATION
WITH THE LEADING
STORAGE COMPANY
WORLDWIDE**

4 BUSINESS TEAM GROWTH

- **50+ PEOPLE FOR SALES, PRE-SALES AND SUPPORT**

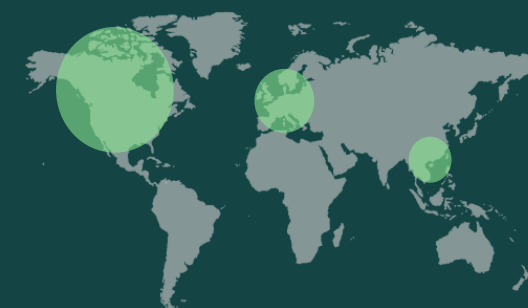
Arcapix sales team fully integrated into the organization

- **STRONGER PRESENCE IN US**

Dozen of people in US

- **CAPABILITY TO LEVERAGE INTEGRATORS
AND DISTRIBUTORS**

179 EMPLOYEES
(Dec. 31, 2022)



**A STRONG
BUSINESS FORCE,
A GLOBAL
PRESENCE**

AGENDA



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INCOME STATEMENT – 2022 ⁽¹⁾



Audited data

Consolidated data – (€000)	2021	2022	Var.%
Net Sales	1,454	16,414	+1029%
Subsidies	2,425	2,280	-6%
R&D capitalization	8,323	11,753	+41%
Other revenue	134	249	+86%
TOTAL REVENUE	12,336	30,696	149%
Cost of sales	(522)	(7,221)	+1282%
Operating expenses	(17,585)	(26,153)	+49%
<i>including Salaries & contributions</i>	<i>(9,470)</i>	<i>(16,340)</i>	<i>+73%</i>
<i>including other expenses</i>	<i>(8,115)</i>	<i>(9,813)</i>	<i>+21%</i>
EBITDA	(5,771)	(2,678)	-54%
Amortization & Depreciation	(12,852)	(16,953)	+32%
OPERATING RESULT	(18,623)	(19,631)	+5%
Research Tax Credit	3,613	4,049	+12%
NET OPERATING RESULT*	(15,010)	(15,582)	-4%
FINANCIAL RESULT	(105)	187	-278%
EXCEPTIONNAL RESULT	-	(153)	-
NET RESULT	(15,115)	(15,548)	-3%

Strong increase in consolidated revenue and improvement of EBITDA

Increase in capitalized production : continuous R&D effort (Coolidge™2 and ngenea®2)

Gross margin on Net Sales : 56%

+73% in headcount expenses – include Arcapix' employees – 179 employees at end December 2022 (versus 103 at the end of December 2021).

reflecting the ongoing investments during the last 3 years

CASH FLOW STATEMENT - 2022



Consolidated and Audited data

REPORTING CASHFLOW in K€	ACTUAL FY 2021	ACTUAL FY 2022
Gross Margin	932	7 062
Opex	(17 585)	(26 153)
R&D subsidies (operating & investment)	1 871	1 888
Change in WC (except. Tax credit and plan)	(712)	886
Tax credit (net)	2 703	1 958
Plan (suppliers) & CEA reimb	(722)	(721)
OPERATING CASHFLOW	(13 513)	(15 080)
Capex (excl. Capitalized R&D)	(5 359)	(2 901)
FREE CASH-FLOW	(18 872)	(17 981)
Net Cash from investors	11 124	36 675
Bank net	(247)	1 282
Refundable advances (net)	(21)	-
FINANCING CASH FLOW	10 856	37 957
Annual Cash in (Cash out)	(8 016)	19 976
<i>Cash beginning of period</i>	<i>20 238</i>	<i>12 222</i>
CASH END OF PERIOD	12 222	32 198

No prepaid CIR cashed in FY 2022

No Tape-Out in 2022 – mainly Coolidge™2, and Coolidge™ 1 qualificatin and productization expenses

Including the €24.4M€ increase in capital, €8.9 M convertibles bonds and the balance from 2021 equity line

32.2M€
Strong cash position at end 2022

BALANCE SHEET 2022



Audited data

ASSETS (K€)	As of 31/12/21	As of 31/12/22
Intangible assets	19,461	38,129 ¹
<i>Incl. Arcapix</i>		13,762
Tangible assets	4,764	3,131
Financial assets	698	373
NON CURRENT ASSETS	24,923	41,633
Inventories	229	2,065
Accounts Receivable	1,095	3,273
Other receivable (CIR, Subsidies)	3,980	7,027 ²
Cash	12,222	32,198
CURRENT ASSETS	17,526	44,563
Accrued expenses	831	1,439
TOTAL ASSETS	43,280	87,635

LIABILITIES & EQUITY (K€)	As of 31/12/21	As of 31/12/22
EQUITY	25,627	47,707
Provisions	124	427
R&D refundable advances	6,286	6,309
Bank and convertible loans	5,326	6,665
Accounts Payable	2,628	5,817
Taxes & contributions payable	1,298	3,065
Other debts	47	15,923
DEBTS & LIABILITIES	15,709	38,206
Subsidies deferred revenue	1,944	1,722
TOTAL LIABILITIES & EQUITY	43,280	87,635

¹ Including Arcapix goodwill (€13.8M) as well as IP's and Developments for a net value of 15,225K€

² Including CIR 2022 (4,049K€) and Prepaid subsidies (2,978 K€)

Including increase in capital of €24.4M. + 8M convertible bonds / Reduction of nominal value from €10 to €1

- €4,585K bank loans (PGE)
- €2,066 convertibles bonds (max. potential dilution 1.6%)

"Other debts" includes €14 137 K corresponding to Arcapix's sellers price complement , which will be repaid exclusively in shares (fixed number of 391,386 shares to be issued over the next 4 years). 1 tranche of 73,384 shares to be issued on April 2023 (max dilution will be 4%)

Deferred revenues from prior year subsidies and Maintenance contracts deferred revenues (1.4M€)

Consolidated data (K€)

STRONG INVOLVEMENT IN EUROPEAN COLLABORATIVE PROJECTS

① CARAIBE PROJECT



Aims to develop the next generation MPPA® Coolidge™ processor (Coolidge2) – 2020-2022 Funding: **3.7 M€**

② PIRANA PROJECT



Co-development of a new type of 5G server, optimized in term of flexibility, performance and power consumption – Funding: **2.5 M€**

③ 5G-OPERA PROJECT



French & Germany project covering 5G private networks – Funding: **0.6 M€**

④ EPI SGA2 PROJECT



For the development of future generations of microprocessors – 2022-2024 Funding: **1.1 M€**

EUROPEAN PROJECTS, VISIBILITY AND EXTERNAL FINANCING FOR KALRAY

AGENDA



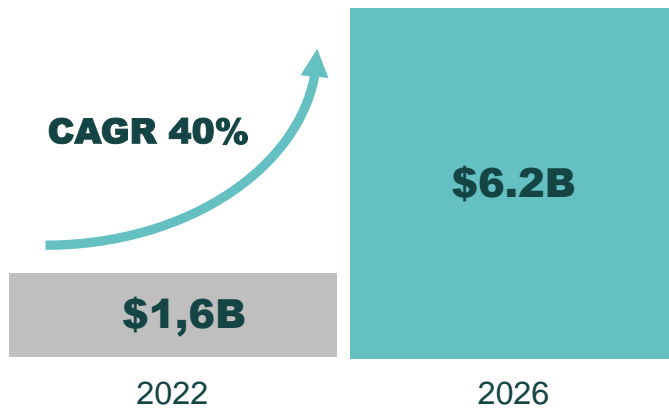
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A WIDE MARKET TO CONQUER: DPU-BASED SOLUTIONS



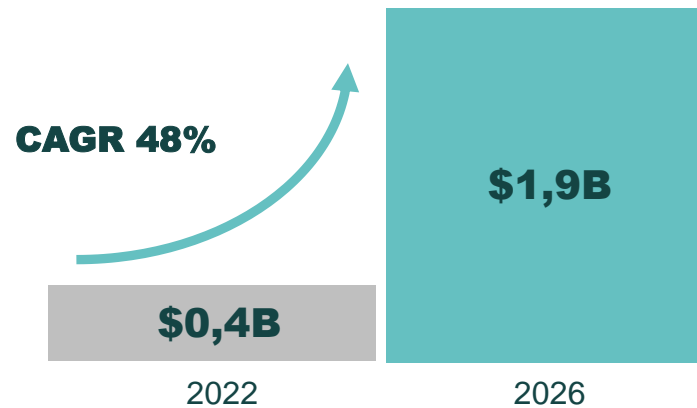
Acceleration and Offload Cards: Markets Are Fast Growing and Moving to DPUs

Storage Acc. Cards & SmartNIC



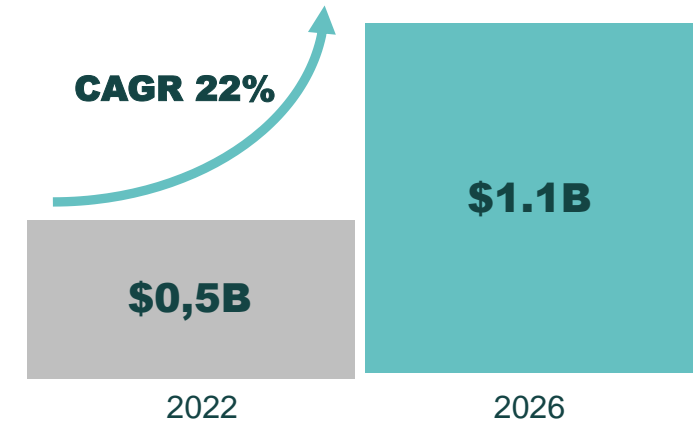
- Need for more performance both Networking & Storage
- Virtual Networking Functions
- New Protocols e.g. NVMe
- Service offload

HPC / Machine Vision



- DSP needs replacement technologies
- Demand for more and more AI/Machine Learning & Data Processing

5G/Telecom Radio Access Network



- Telecom Infra Revolution
- Open RAN
- Host Processor offload
- Performance per W and per \$

2023

**A NEW MAJOR STEP IN BUILDING A LEADING
HIGHLY PROFITABLE BUSINESS IN THE
FAST-GROWING MARKET OF
DATA PROCESSING.**

2023 KEY OBJECTIVES



BUSINESS GROWTH

- Strategic deals
- **€40M** revenue

TEAM

- Top exec team
- Increase of Sales + Operations

OFFER

- A targeted comprehensive SW & HW offer
- Launch of ngenea[®]2 & Coolidge[™]2

IMPROVEMENT OF EBITDA



BUSINESS GROWTH

3 FOCUS

1

MAJOR CONTRACT SIGNATURES & DEPLOYMENT OF EXISTING CONTRACT



In Storage, Smart Vision/AI and 5G



Storage



**Machine
Vision/AI**



**5G
Telecom**

2 A GLOBAL PARTNERSHIP WITH DELL TECHNOLOGIES

- **DELL ETC PROGRAM**

Kalray joined the selective **Extended Technologies Complete (ETC)** Dell Technologies program as a **Core Partner** (10 key partners worldwide) in H2 2022

- **HPC & UDS DELL DIVISIONS**

Kalray solutions (ngenea® and pixstor™) are now promoted by 2 Dell's storage divisions (HPC & UDS)

- **RESELLING AGREEMENT**

Reselling agreement of Kalray solutions in place

- **SEVERAL MILLIONS OF SALES ALREADY – FUNNEL GROWING RAPIDLY IN US AND EUROPE WITH SIGNIFICANT IMPACT EXPECTED H2 THIS YEAR**



**A STRATEGIC
PARTNERSHIP TO
SCALE-UP FAST OUR
BUSINESS**

MEDIA MARKET: ONE OF THE MOST DYNAMIC...



3



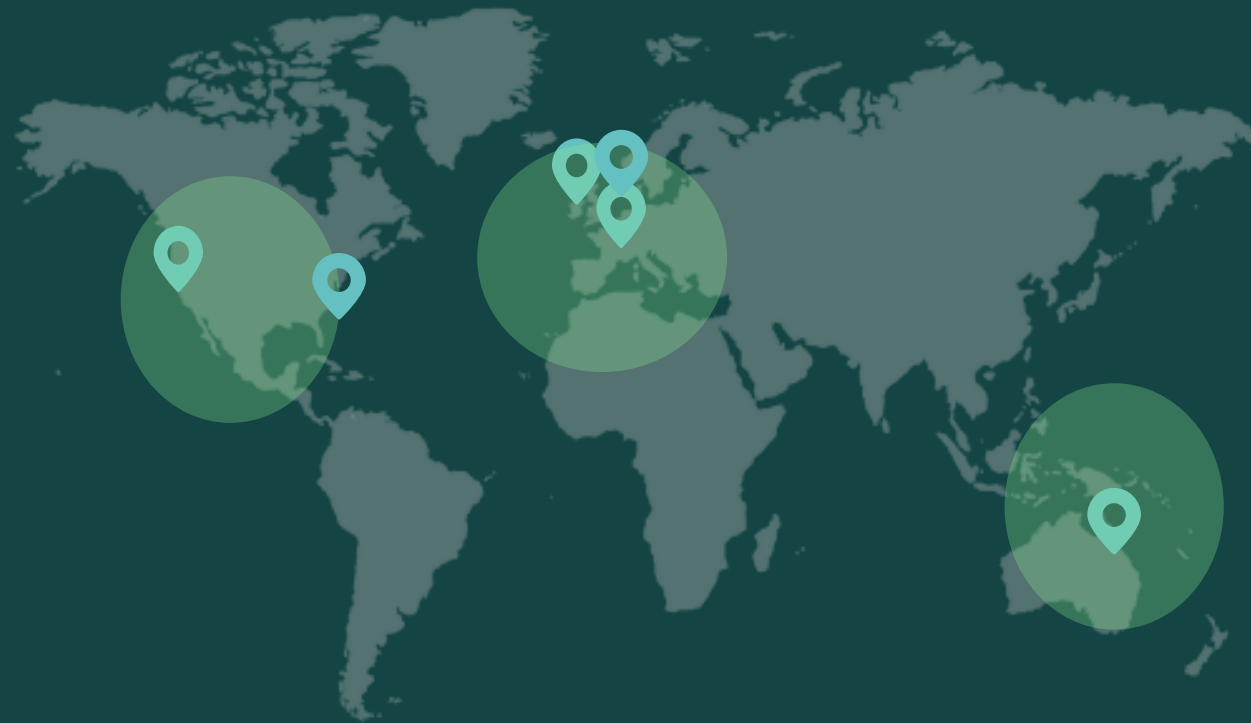
pixitmedia
A Kalray Company



pixitmedia
A Kalray Company

**... AND ADVANCED MARKET IN INTENSIVE DATA
WORKLOADS**

RECRUITMENT: GLOBAL EXEC, SALES, PRE-SALES AND OPERATIONS TEAMS



PRODUCT STRATEGY

**BUILD ADDED-VALUE FOR END-USERS
AND EASE OF ADOPTION ON SPECIFIC
SEGMENTS RATHER THAN
RAW TECHNOLOGY**

pixitmedia.

A Kalray Company

BREAKING NEWS

NAB SHOW



ANNOUNCING NGENEA2

APRIL 13, 2023

COOLIDGE™2: FIRST SAMPLES THIS SUMMER

More Performance, Less Power Consumption, Fine Tuned for our Targeted Markets

1 STORAGE MARKET



Enterprises



**Private
Data
Centers**



**Cloud
Service
Providers**

2 EDGE COMPUTING



**Machine
Vision
& AI**



**5G
Telecom**



WHY



NOW ?

MARKET IS NOW

Data is everywhere – successful companies will be those that can leverage massive flow of data and process it effectively.

PRODUCT IS NOW

Current DPU generation is in production.
Complementary mix of hardware & software.
New product generation to be launched in 2023.

PARTNERSHIPS IN PLACE

Strategic partnership with Dell and other major players in the industry.

FIRST CONTRACT WITH MAJOR COMPANY SIGNED

NASDAQ leading company.

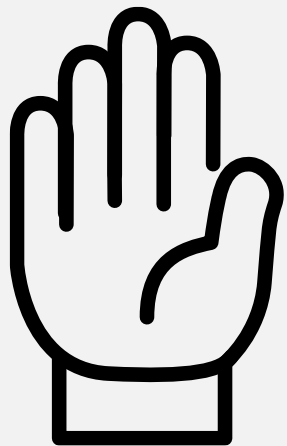


THE ONLY EUROPEAN PROVIDER OF DPU

AGENDA

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- Q&A





MICROSOFT TEAMS



"Hands Up" button



PHONE



Keys " * " then " 6 "

The background features a stylized, isometric illustration of electronic circuit boards. The boards are shown in various shades of teal, blue, and purple, with intricate patterns of gold and silver circuitry, including traces, pads, and component footprints. The perspective is angled, creating a sense of depth and complexity.

THANK YOU



KALRAY
THE POWER OF MORE

www.kalrayinc.com

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THE POWER OF MORE

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APPENDICES



AGENDA

KALRAY STOCK MARKET DATA

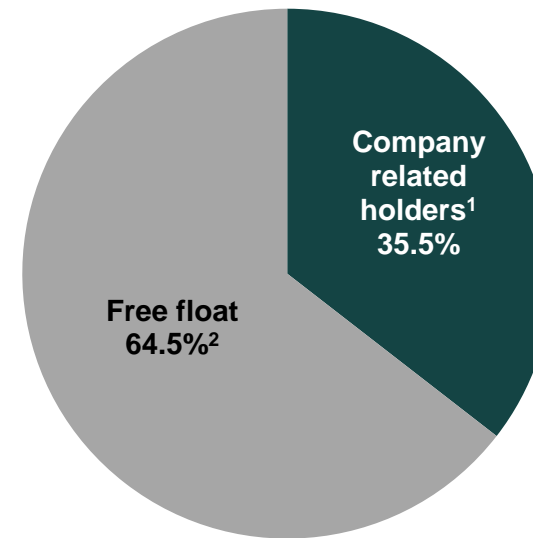


STOCK EXCHANGE

- **Market:** Euronext Growth
- **Name:** KALRAY
- **ISIN code:** FR0010722819
- **Ticker symbol:** ALKAL
- **Share price:** €18.26 (at 14/04/2023)
- **Number of shares:** 8,236,649 (31/03/2023)
- **Market capitalization:** €150.4 M (at 14/04/2023)



SHAREHOLDING AS OF DECEMBER 31, 2022



¹ including Alliance Ventures, CEA Investissement, MBDA, NXP, Safran Corporate Ventures, Definvest (Bpifrance), PENGPAI France ...

² Euronext definition

2023 KEY PRIORITIES

Growth Drivers – 2 Main Areas

1 STORAGE MARKET



Enterprises



**Private
Data
Centers**



**Cloud
Service
Providers**

2 EDGE COMPUTING



**Machine
Vision**



**5G
Telecom**



Automotive

GO-TO-MARKET STRATEGY IN PLACE

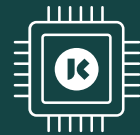
A Dedicated Approach per Customer Tier



**“EXPERT”
CUSTOMERS**

**“SOLUTION”
CUSTOMERS**

NEEDS



**CORE
TECHNOLOGY**



**A COMPLETE
SOLUTION**

SPECIFICITIES

- Require proof points to engage
- Long sales cycle (1 to 2 years)
- High credibility and financial visibility required

- Require complete solutions, easy to adopt (cards, box and software)
- Hardware usage must be transparent to users
- Solid hardware support

DEAL SIZE

**Deal size of
several 10M\$/year**

**Deal size of several
hundreds and M\$/year**

A MATURE PRODUCT AND TECHNOLOGY



BUILT FOR HIGH VOLUMES & HIGH-QUALITY PRODUCTS

- Fabless model – fully scalable
- Qualified Global Supply Chain
- Support highly demanding customers in Automotive & Aerospace
- Partnership with NXP on safety-centric systems and technologies



University of New Hampshire
InterOperability
Laboratory



KALRAY ACCELERATION CARD

Kalray DPU-based Acceleration Card



KALRAY DPU

At the Heart of Kalray Unique Data Efficiency

Kalray DPU: “Best Technology & Roadmap”

ENRICO SIGNORETTI

Research Analyst

GIGAOM



Kalray, the leading DPU company



Wikipedia – DPU Processor

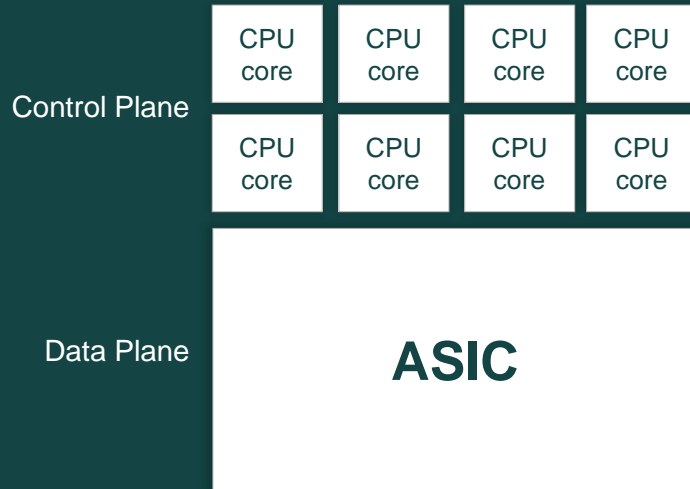
“A data processing unit (DPU) is a programmable specialized electronic circuit with hardware acceleration of data processing for data-centric computing.”

DPU vendors & product lines include:

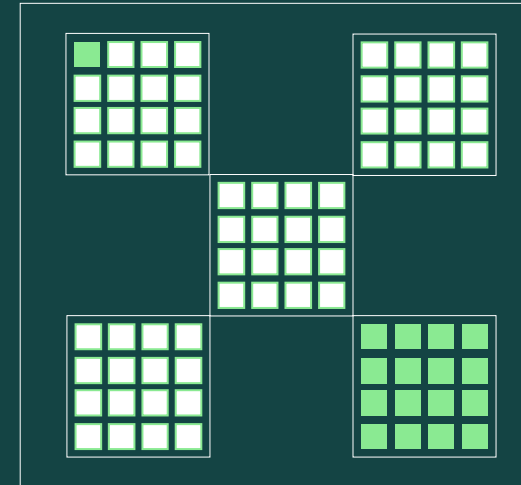
- [AMD/Pensando](#): Capri, Elba & DSC^{[14][4]}
- [Broadcom](#): Stingray^[15]
- [Fungible](#): F & S Series^[16]
- [Intel](#): Infrastructure Processing Unit (IPU)^[17]
- ➔ • [Kalray](#): Kalray K200-LP^[18]
- [Marvell Technology](#): OCTEON and ARMADA^[19]
- [Nvidia/Mellanox Technologies](#): BlueField, ConnectX, Innova^[20]

Unique Technology, Most Advanced DPU on the Market, Result of 10 Years of Development

USUAL APPROACH



KALRAY'S MPPA^{®3} COOLIDGE[™]



- A few power-hungry RISC CPU cores
- CPU flexibility limited to control plane
- Data plane is “hardwired” –
No new services / no possible evolution!

- **80** highly efficient VLIW fully programmable independent **CPU** cores,
- Gathered into **5 clusters**
- Connected to high-speed fabrics & high-speed interfaces.



KALRAY POSITIONING VS COMPETITION

Cost-Optimized for Intelligent Data Processing

	MPPA® DPU	FPGA	GPU
Performance	✓	✓	✓
Easily programmable (open standards)	✓	✗	✓
Cost Efficiency	✓	✗	✗
Performance scalability	✓	✗	-
Heterogenous processing DSP function support	✓	✗	✗
Low latency, real-time, deterministic	✓	✓	✗



Low Latency /
Deterministic /
Real-Time



Heterogeneous
Parallel
Multi-Processing



High Computing
Efficiency



Best Power
Efficiency



Cost
Optimized



Easily Programmable –
Standard Languages



MORE ABOUT THIS CONTRACT



Customer Profile

- Over 100B\$ valuation
- Several tens B\$ revenue in 2021

Customer Needs

- Highly efficient data processing solution for next generation systems
- Key KPIs:
 - Performance / \$
 - Signal Processing and AI capabilities

Solution

- Kalray acceleration cards with 4 Coolidge chips

Potential deal Size

- Expected volume : several thousand cards / year
- Life of the project minimum : volume production from 2025 for 5 years minimum

Kalray 3x to 5x

more efficient in performance / \$
and performance / consumption
vs main competitor

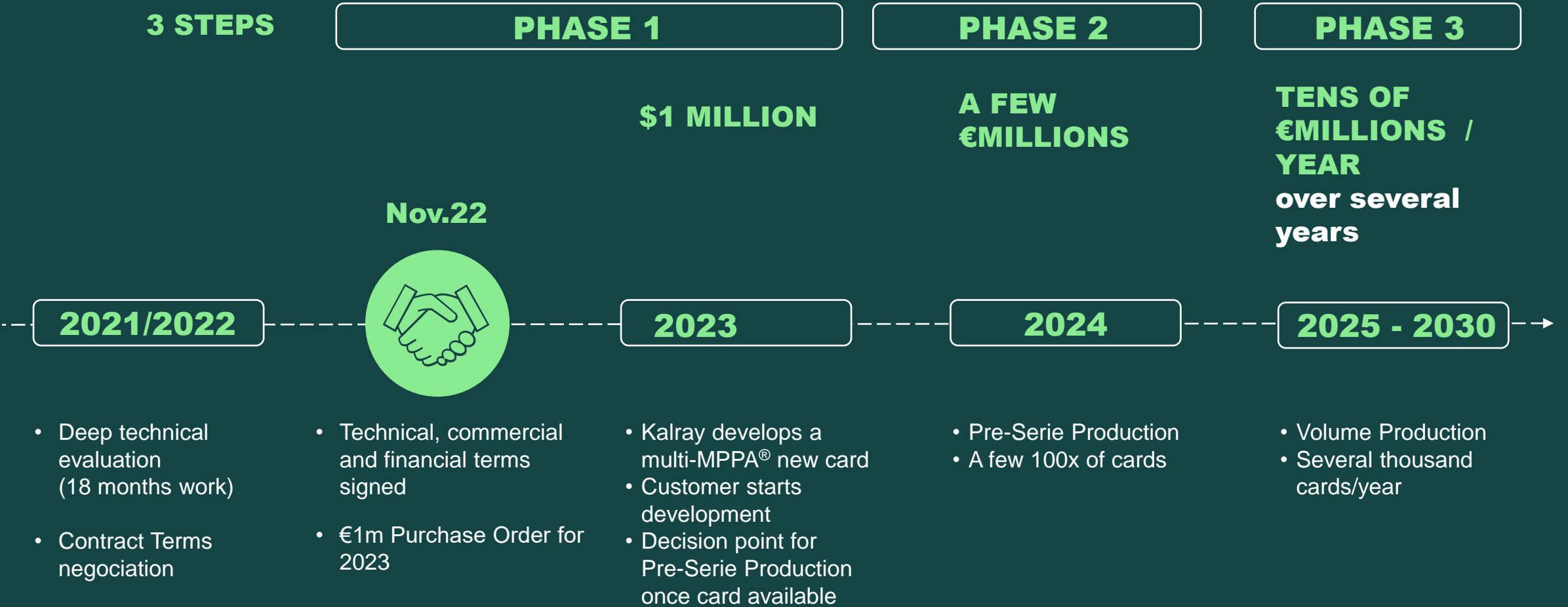
100M€+

Total deal Size

HOW SUCH A CONTRACT WORKS ?



Strong Milestones – Main Risk Is Behind Us (Technology, financial and Commercial Terms)



FINANCIALS - INTRODUCTION



1st Year of Integration of Arcapix

SUPPORT KALRAY'S STRATEGY

- **Increases** growth & value around Kalray processors,
- **Accelerates** the time-to-market of the technology and products
- **Takes advantage** of cross-selling opportunities.

COMPLETED ON APRIL 15, 2022

- Transaction mainly **in shares** approved by Kalray's extraordinary general meeting of shareholders.

DEAL STRUCTURE

- **€883 548 cash consideration and cash adjustment (4 063 K€) taken out of Arcapix available cash at closing.**
- **73,384 shares issued to the sellers**
- **Over 3 years**, up to 391,386 additional shares
 - To be paid in several installments over 3 years
 - Depending in particular on the presence of the founders and the achievement of business objectives.
- The price per Kalray share for the transaction has been set at **€36.12** (VWAP 180 days preceding the signing of the term-sheet relating to the transaction).

A RECOGNIZED TOP TECHNOLOGY: X5 PERF / \$



Kalray DPU-based Flashbox™ wins coveted
Flash Memory Summit Award for Most
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