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FDK CORPORATION

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Information on the FDK Group Strategy Framework 10 years' scheme and Mid Term Business Plan "R1"

The FDK Group has formulated and developed "Mid-Term Business Plan 1618" as a means to strengthen our foundational business which has returned to developing materials focusing on powders, and to improve our presence as an "Leader in Energy Management Systems Across Multiple Platforms" through providing products that make use of battery and electronic business synergies to the industrial and consumer markets.

In attempting to development for differentiating ourselves from our competitors, we have worked hard to develop high energy density cathode materials for small all-solid-state SMD battery, to establish sample specifications, and to develop batteries with wide temperature, high capacity, and long-life characteristics. We have also worked hard on developing compact modules with high density characteristics. Although we were able to obtain some results in discovering and developing new fields in the industrial market such as onboard accessories for automotive, meters, and security in order to expand sales in growing markets, both sales and operating profits diverged significantly from our initial plans due to strict market competition and stagnant markets.

In order for us to strengthen our business structure and improve our corporate value, we need to brush up on our vision for FDK Group and meet the expectation of our various stakeholders. Toward that end, we have formulated 10 years' scheme as our "Status-to-be-in-10-years" now, and the Mid Term Business Plan "R1" covering what needs to be done during the first three (3) years (from FY2020 to 2022) of this period.

Please see the presentation material for more details on both the "10 years' scheme" and the "Mid Term Business Plan "R1".

FDK Group Strategy Framework 10 years' scheme - Mid Term Business Plan “R1”

October, 2019

莫十年之計
如樹木

* 10 years' scheme is nothing but to grow a tree
(Excerpt from Guan-zi)

0. Preamble

- As Mid Term Business Plan is being made, FDK Group's Vision is brushed up and "10 years' scheme" as our "Status-to-be-in-10-years" is generated to respond to various stakeholders' expectation.
- In order to accomplish "Status-to-be-in-10-years", we also created a roadmap to fill the gaps between now and future and set the first 3 years (FY20 to FY22) as FDK Mid Term Business Plan "R1". The basic principle is as follows:
 1. To continue reformation & business transformation, positioning FY19 as Year 0
 2. To concentrate fundamental issues as a preparation to step up during R1
 3. To maximize Return on Investment including Year 0
- "R1" means the first plan of "R"eiwa era and also our commitment to "R"eformation, "R"efresh/"R"evival is contained in "R".

Review of MTP "1618"



Outline of MTP "1618": Enhancing the presence of the company as manufacturer of system management for energies by developing differentiated products and Expansion in growth market

	Major efforts	Outcomes
Develop differentiated products	<ul style="list-style-type: none"> Develop new material toward next generation Develop wide range products from materials to system products corresponding to diverse market needs 	<ul style="list-style-type: none"> Developed high energy density cathode materials for small all-solid-state SMD battery, and established sample specification Developed batteries with wide temperature, higher capacity, and longer-life characteristics to meet the needs of markets such as onboard accessories for automotive, meters, and residential smoke detectors, and developed compact modules with higher density characteristics
Expansion in growth market	<ul style="list-style-type: none"> Secure and expand sales channels for battery and electronic devices in global market Expand new products in the market that utilize synergy of Battery and Electronic technologies 	<ul style="list-style-type: none"> Although sales fell far below goals due to strict competition and market stagnation, obtained some results in discovering and developing promising new growth fields in the industrial market (such as onboard accessories for automotive, meters, and security) Although it will take some time to shift into high gear, we continue to make progress in developing businesses in markets such as system products, sensor beacons, IoT devices such as loggers, and wearable products

■ Management targets

	Sales	Operating income ratio	ROIC	Net debt-to-equity ratio	Total asset turnover	Net debt equity ratio
Target	100 billion yen	7%	15% or more	30% or more	1.6	0.1
Actual	72.1 billion yen	1%	1.7%	19%	1.3	1.0

Although we were able to make progress in making rapid management decisions and making mutual use of management resources through absorbing subsidiaries, and were able to promote streamlining by making thorough cost reductions, we were unable to keep up with changes in our business environment (such as sudden increases in material costs, fluctuations in exchange rates, and stricter competition) and were therefore unable to reach any of our indicators

1. FDK Group's Vision



FDK group contributes to development of electronics realizing 3E (Environmental Conservation, Energy Saving, Economic Development) through the development and supply of Batteries and Electronic Devices based on customer satisfaction, and aims at becoming the “Leader in Energy Management Systems Across Multiple Platforms” providing customers with high-efficiency intrinsically safe products.

(From previous “Mid-Term Business Plan 1618”)



**FDK group, as a Smart Energy Partner,
assemble advanced technologies,
would like our customers to best utilize electric energy in a safe
and efficient manner, and contribute to materialization and
development of sustainable society.**

2. FDK Group's Status-to-be



Vision

FDK group, as a Smart Energy Partner, assemble advanced technologies, would like our customers to best utilize electric energy in a safe and efficient manner, and contribute to materialization and development of sustainable society.



Status-to-be

Status that
Vision is
materialised

Whom: Entities that support people's daily life and society, and individual users

What: To provide offerings that enable customers to best utilize clean and safe electric energy (Batteries/Engineering, Next Generation Batteries, Power Management Solutions)

When: FY2029 (10 years later)

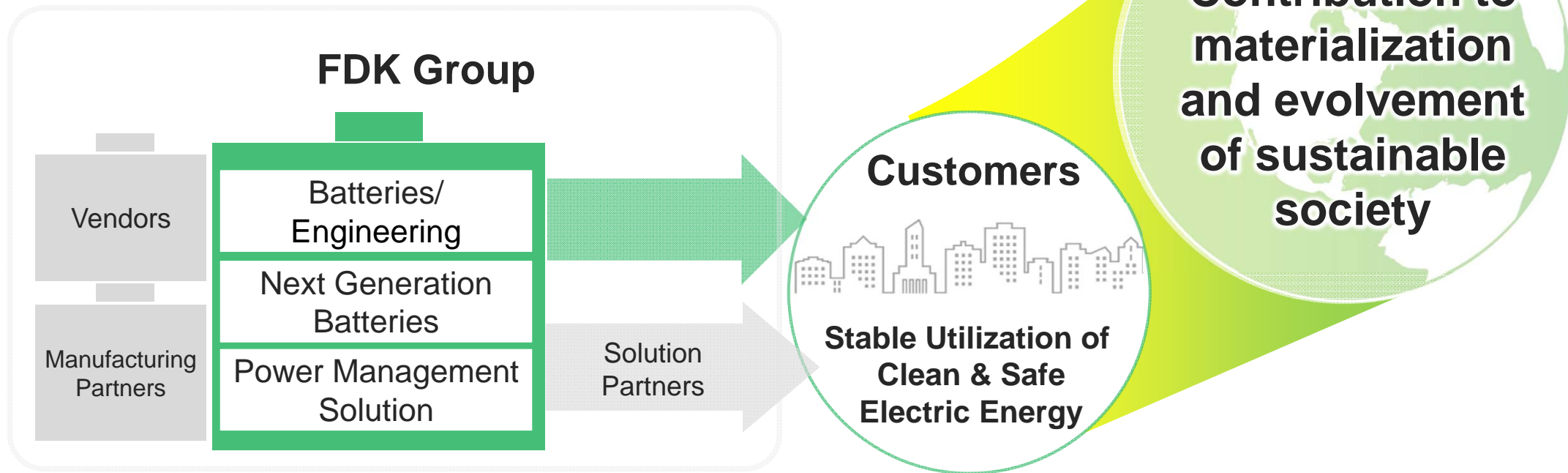
Goals: Sales 80 billion Yen (New Business 30%)
Operating Profit ratio 7.5%

2. FDK Group's Status-to-be: Value Chain



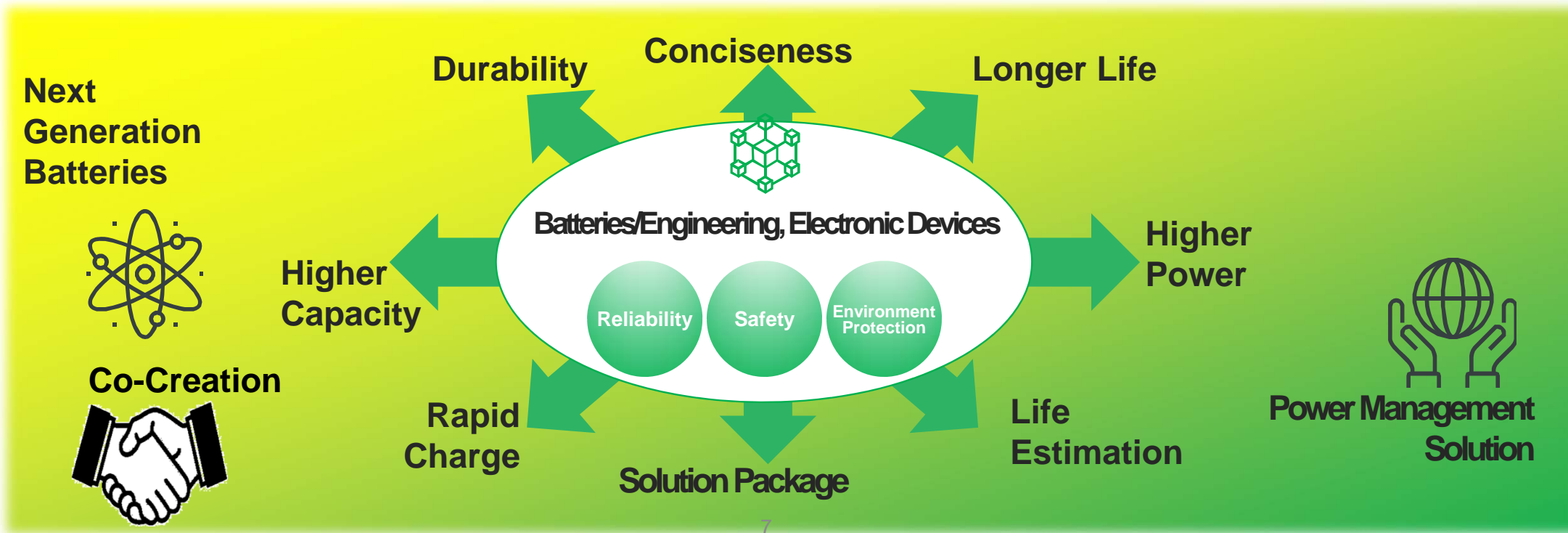
- To proactively take advantage of ecosystem, increase value of our offerings with various partners, and enable customers to utilize electric energy in diversified ways.

FDK Group ecosystem



2. FDK Group's Status-to-be: Offerings

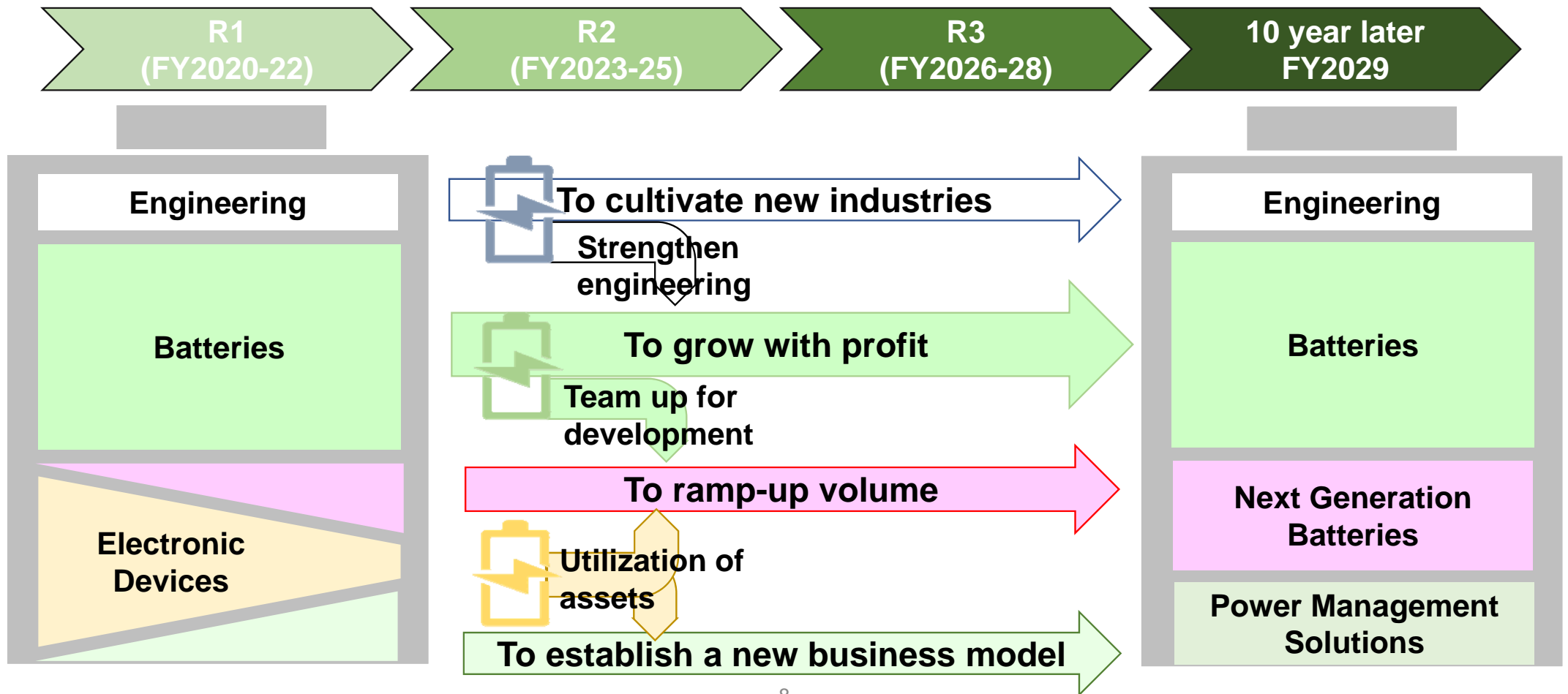
- To add various functions & features onto unique value of our current offerings (reliability, safety, environment protection) and respond to users' expectations to use electric energy in a wider range of applications.



2. FDK Group's Status-to-be: Business Portfolio Transition

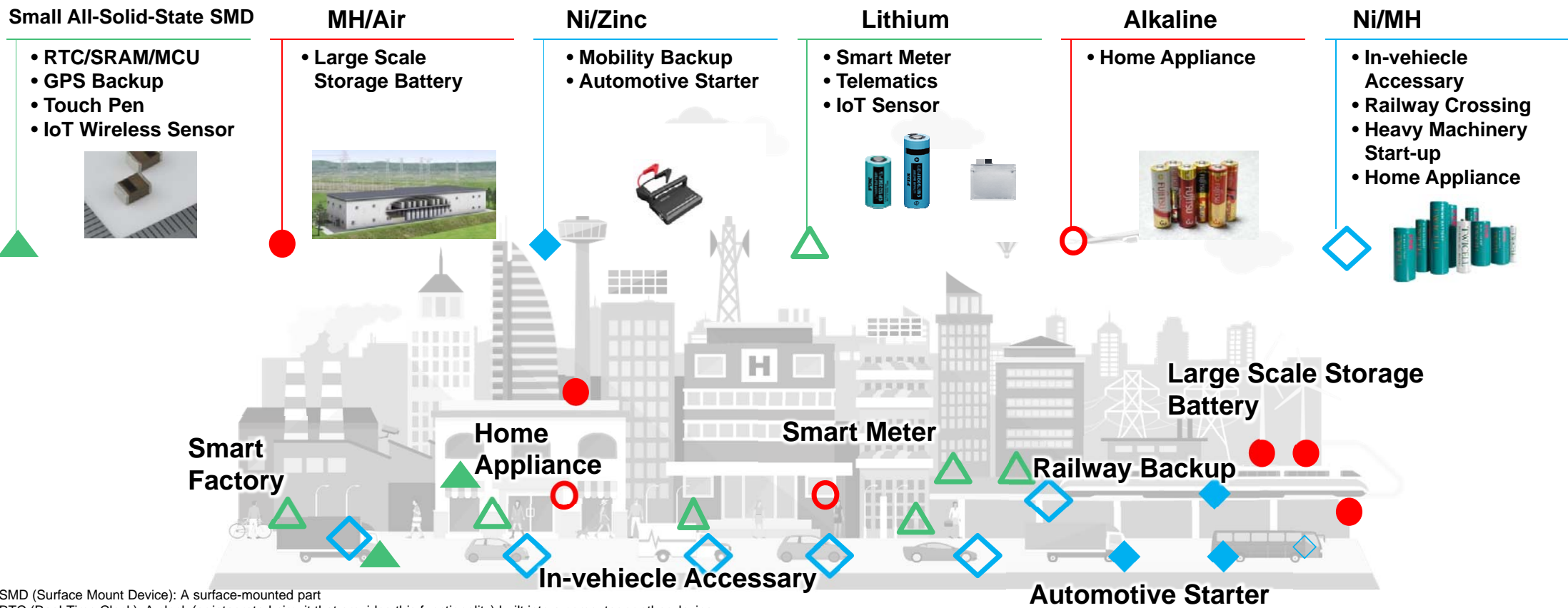


■ Assets of current portfolio are used to revitalise and reform FDK



2. FDK Group's Status-to-be: Battery Applications

Offerings that provide users with stable utilization of clean and safe electric energy will be widespread across the society.



SMD (Surface Mount Device): A surface-mounted part
 RTC (Real-Time Clock): A clock (or integrated-circuit that provides this functionality) built into a computer or other device

2. What the FDK Group needs to become: Scenarios using next generation batteries

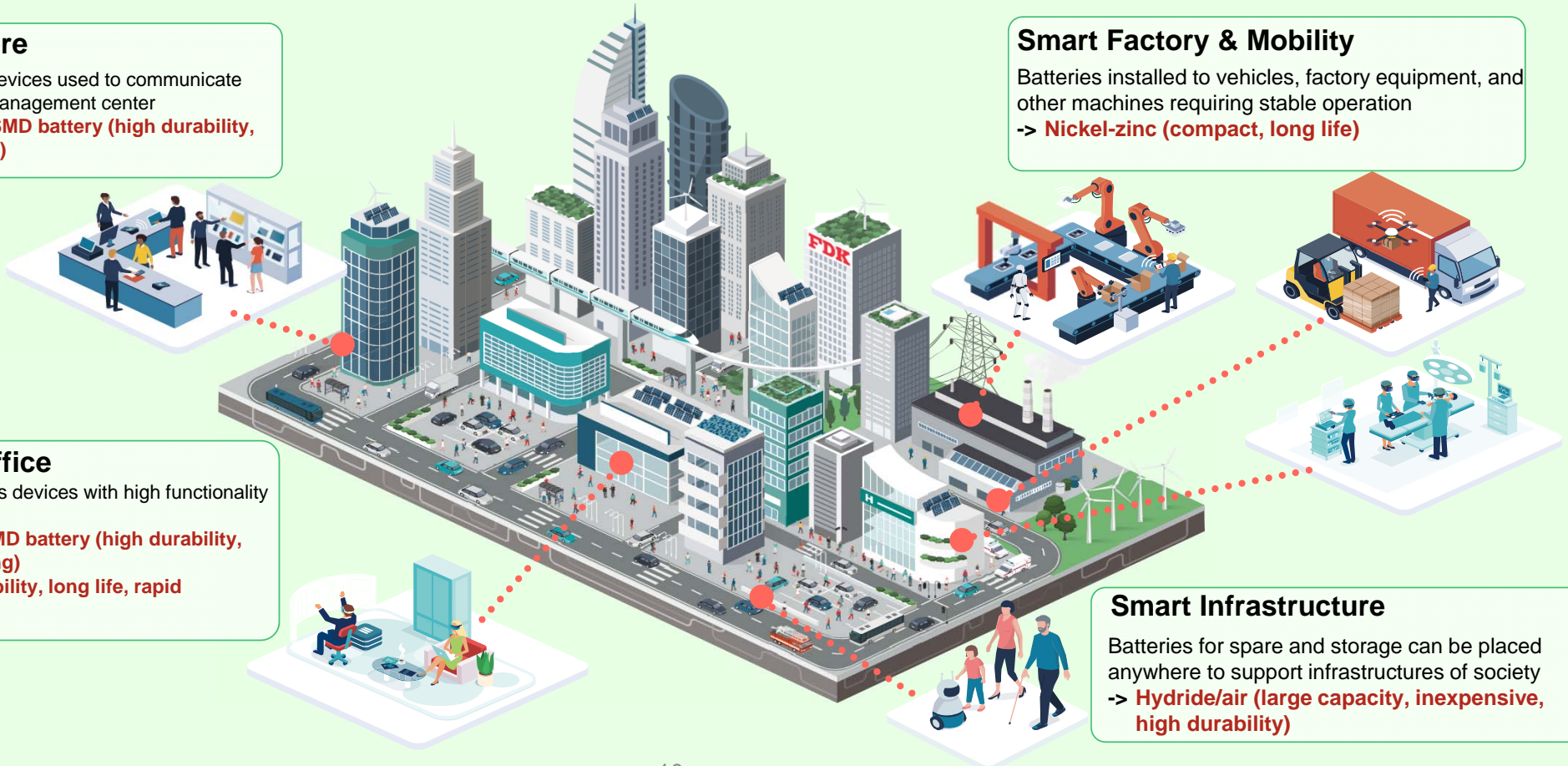
■ Next generation battery business that support smart future cities

New batteries (concise-higher capacity, higher reliability and higher durability) will bring opportunities in use in various situations

Smart Retail Store

Batteries installed in IoT devices used to communicate with cloud computing or management center

-> **Small all-solid-state SMD battery (high durability, high output, compact)**



Smart Factory & Mobility

Batteries installed to vehicles, factory equipment, and other machines requiring stable operation

-> **Nickel-zinc (compact, long life)**

Smart Home & Office

Batteries installed in various devices with high functionality used indoors and outdoors

-> **Small all-solid-state SMD battery (high durability, long life, rapid charging)**

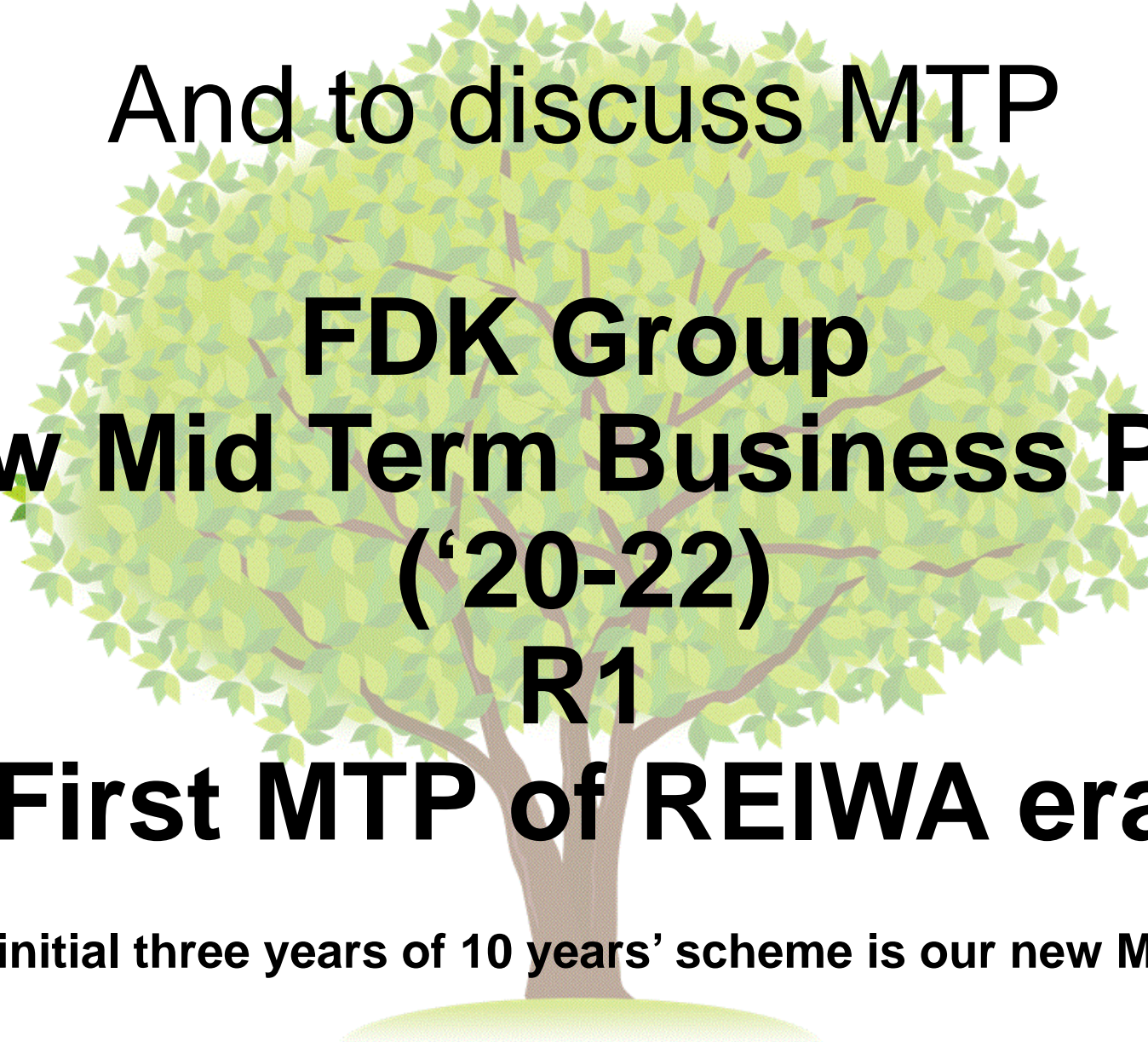
Nickel-zinc (high durability, long life, rapid charging)

Smart Infrastructure

Batteries for spare and storage can be placed anywhere to support infrastructures of society

-> **Hydride/air (large capacity, inexpensive, high durability)**

And to discuss MTP

A large, stylized tree with a brown trunk and a dense canopy of green and yellow leaves is centered in the background. The tree is positioned behind the main text, with its trunk extending down to a small green mound at the bottom.

FDK Group
New Mid Term Business Plan
(‘20-22)
R1
(First MTP of REIWA era)

The initial three years of 10 years' scheme is our new MTP

0. Strategic Direction of FDK Group's new Mid Term Business Plan "R1"



1. Vision

FDK group, as a Smart Energy Partner, assemble advanced technologies, would like our customers to best utilize electric energy in a safe and efficient manner, and contribute to materialization and development of sustainable society.

2. Status-to-be (Status that Vision is materialised)

Whom: Entities that support people's daily life and society, and individual users

What: To provide offerings that enable customers to best utilize clean and safe electric energy
(Batteries/Engineering, Next Generation Batteries, Power Management Solutions)

When: FY2029 (10 years later)

Goals: Sales 80 billion Yen (New Business 30%) Operating Profit ratio 7.5%

The initial 3 years of 10 years' scheme is to focus on fundamental issues as a preparatory period for step-up. In FY19 as Year 0, we continue reformation and business transformation.

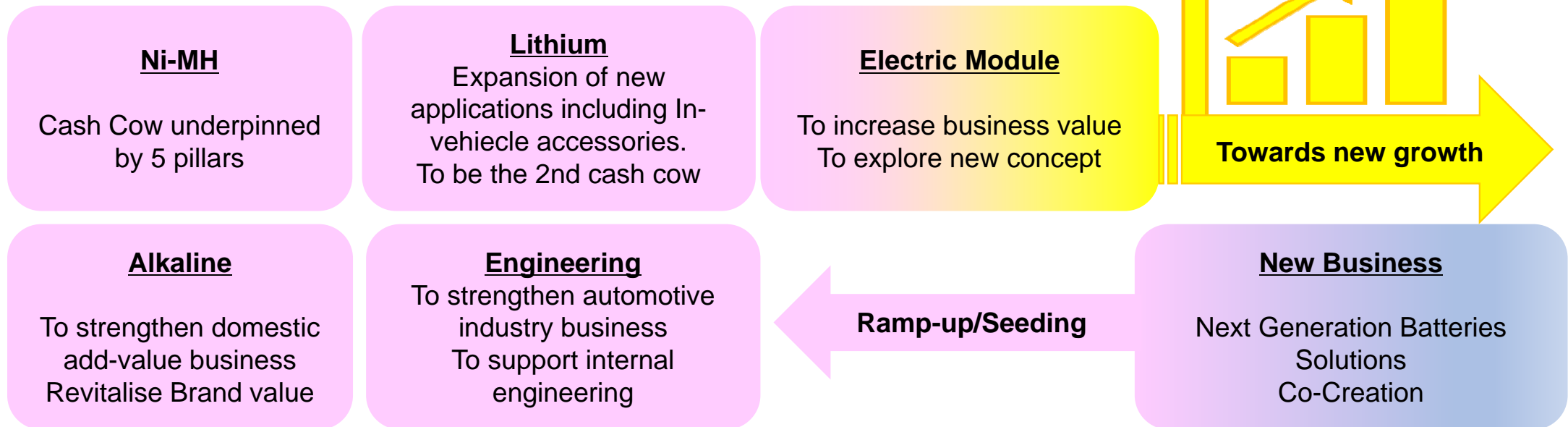
We would maximise RoI of R1 (FY20-22) including Year 0

FDK Group is engaged in the following till FY22 toward Vision and Status-to-be:

- 1) To stabilize current businesses and establish growth with profit;**
- 2) To proactively cultivate new business as a Segway to next generation; and,**
- 3) To establish a corporate culture that each individual makes best endeavor to satisfy customers in a self-disciplined way**

1. R1 Business Portfolio

- To stabilise two pillars of Ni-MH and Lithium Businesses
- To revitalise Alkaline business and re-establish brand value
- To strengthen Engineering
- To explore a growth/revitalisation scenario of Electric Module under a business concept
- To seed and ramp-up new businesses and Co-Creation with partners



1. R1 Business Portfolio [new battery development plan]



	Overview	Uses (possible)	Mass production launch period (planned)
1) Small all-solid-state SMD battery	<ul style="list-style-type: none"> • Consisted only of solid-state materials • No concern about the fire, explosion or leakage • Adopt manufacturing methods that resemble those for compact electronic parts (CHIP type capacitors) 	<ul style="list-style-type: none"> • For RTC backup for industrial equipment, etc. • Batteries for use in energy harvesting and for IoT devices, etc. 	FY2020 3Q
2) Rechargeable nickel zinc battery	<ul style="list-style-type: none"> • Rechargeable batteries that use nickel for the cathode and zinc for the anode • Battery use our technologies our Ni-MH battery and alkaline battery 	Replacements for lead-acid battery	FY2022
3) Metal-hydride air rechargeable battery	<ul style="list-style-type: none"> • Rechargeable batteries that use air (oxygen) for the cathode and a hydrogen absorbing alloy for the anode • Battery have high energy density per volume and one of the next generation battery notable 	For stationary power sources	FY2022 (field testing)

2. And Game: FDK's new culture required to execute plan



Customer satisfaction

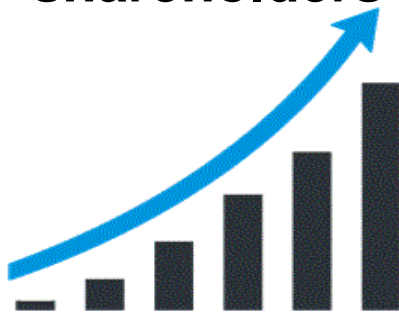


Responsibilities to employees



**and
(do it all)**

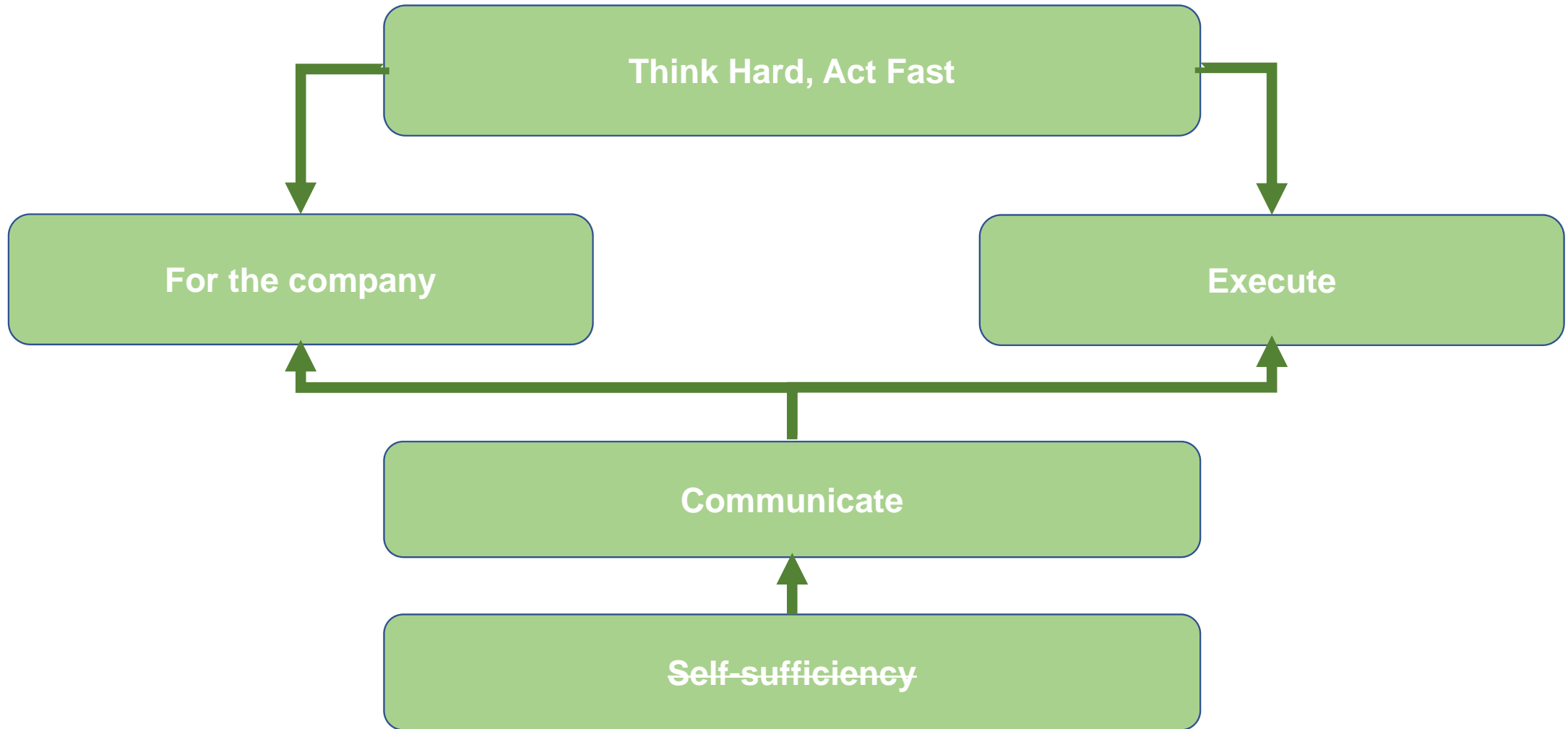
**Promises to
shareholders**



Contributions to society



3. Culture of always striving autonomously





**FDK Group
“10 years’ scheme” and
Mid Term Business Plan “R1”
in numbers**

It all comes down to numbers

Management targets



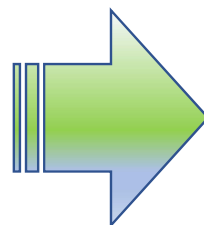
FY2019 (forecast)

FY2022 (target)

Consolidated sales: 60 billion yen

Operating profit ratio: 1.2%

ROIC: 1.8%



Consolidated sales: 60 billion yen

Operating profit ratio: 5.1%

ROIC : 9.9%

Investment in
next generation batteries: 5.5 billion yen

FDK

Technology creating a better future