



ADP! AALTO
DISRUPTION
PARTNERS

DISRUPT LIFE

A presentation to the CEO of SNC Lavalin
1/9/2019

Matti Karjalainen
Patrick Timmer
Lauri Hanninen
Tommi Bergstrom



How can SNC-Lavalin achieve **digital growth**?

Focus on Implementing Disruptive Technologies During Building **Design, Construction & Maintenance**

Offer a Life-Cycle **BaaS-Model** to fully grasp digital disruptions

Raise a **corporate venture capital** fund to stay at the cutting edge of digital disruption

Achieve **Sustainable & Unprecedented** Digital Growth

Content



Content



External Analysis

Industry Trends

Productivity of Construction has been historically **poor**

Low adaption of technology in construction

Low level of **R&D** in construction
(roughly 7x lower than industrials)

Adaption of New Technology Can Help **Boosting Productivity** in Construction

External Analysis

Macro Trends

World population is projected to reach **9.7B** by 2050

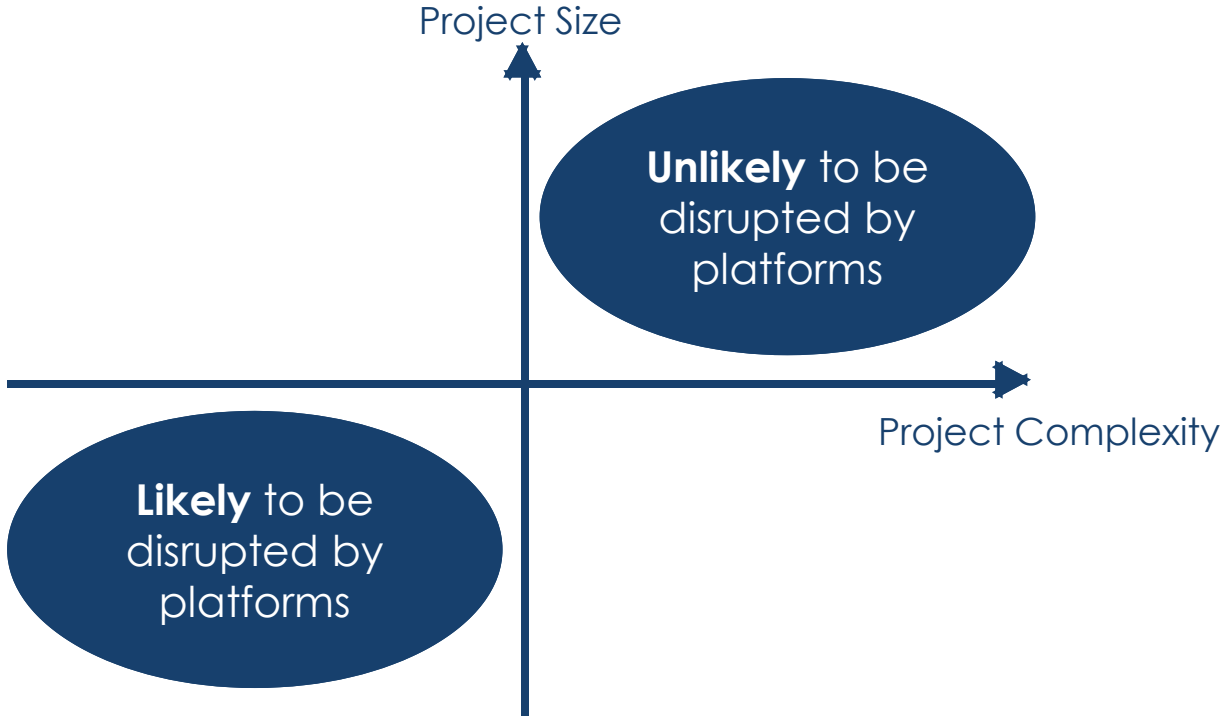
Urban population will exceed rural by roughly **2x** by 2050

The Need for Buildings & Infrastructure is **Growing**.

External Analysis Transaction Disruption

Platforms are **disrupting** the way customers connect to service providers

Low complexity tasks – simple transportation & accommodation – easy to organize



Platforms are Great for **Low-Complexity** Projects...



WOULD YOU BUY A \$200M
BUILDING BASED ON A FEW
RECOMMENDATIONS & REVIEWS?

Internal Analysis

Digital Advances at SNC

SNC is involved with virtually **all existing** digital advances and technologies

Digitalization is already disrupting the way of **building and living**

Design, Construction and Maintenance are all **disrupted** by digitalization

Digital Technology affects the entire Life Cycle of Buildings & Infrastructure

Internal Analysis Revenue Structure

70% of E&C Revenue
currently from
Reimbursable engineering
service contracts

30% Fixed Price Contracts

Digitalization and Automation are Likely to Require changes **to revenue model**



DO CLIENTS WANT TO PAY FOR
LABOR HOURS OR A
FUNCTIONING DELIVERABLE?

Content



Strategic Alternatives Decision Criteria

Vision 2020 Objectives

Become one of the **top global players** in this industry in profitability and growth

Be recognized as a **client-centric** delivery-focused organization

Strong, **performance-driven** culture

Continuous focus on **operational intelligence**

Strategic Alternatives

3 Possible Strategies

Digitalization of Back-Office Management

- Project Planning
- Project Controlling

Digital Collaboration Strategy

- Performance Management
- Contract Management

Digitalization of On-Site Execution

- Safety & Quality Control
 - Field Productivity

Strategic Alternatives

3 Possible Strategies

1 Focus on Developing the **Design Process**

Digital Disruptions:

Get the client involved in the design phase by combining **AR and BIM** technology

Use **Advanced Simulation Methods** to predict and optimize energy efficiency

Key Issue: How to ensure seamless collaboration between designers, contractors and customers?

Strategic Alternatives

3 Possible Strategies

2 Focus on Developing the **Construction Process**

Digital Disruptions:

Use **modular construction techniques** to improve quality, reduce on-site construction times and avoid scheduling problems

Use **data analytics** to optimize construction scheduling and provide **dashboards** to increase transparency

Use **Image Recognition** for quality control

Key Issue: How to implement standardized methods to individual buildings?

Strategic Alternatives

3 Possible Strategies

3 Focus on Developing the **Maintenance Process**

Digital Disruptions:

Implement **sensor technology** in structures for predictive maintenance

Reduce **energy consumption** by using sensor technology and data analytics

Key Issue: How to make sure maintenance is already thought of during construction?

Strategic Recommendation

SNC LIFECYCLE

1

2

3

Focus on the **entire Life-Cycle** of the Building

Offering a holistic **building-as-a-service** model enables the benefits of digitalization during all phases of a building's life cycle

Benefits of digitalization can be used to optimize the building's functionality and **add value to the customer**

Strategic Recommendation

SNC LIFECYCLE

Customer is involved in design process using AR- and BIM technology



BIM Model used in modular construction, which creates 100% transparency about the project to customer



Sensors are applied within modular structures



SNC uses sensor data for predictive analytics

A **life-cycle approach** enables SNC to fully Grasp the benefits of digitalization

Strategic Alternatives Decision Criteria

Vision 2020 Objectives

Become one of the **top global players** in this industry in profitability and growth



Be recognized as a **client-centric** delivery-focused organization



Strong, **performance-driven** culture



Continuous focus on **operational intelligence**



Content



Implementation

Restructure: SNC Lavalin Lifetime

Implement a **new Business Unit** inside EDPR

Start with 500 employees and grow the employee headcount fast

Allocate resources from EDPR and hire new employees

Implementation

Restructure: SNC Lavalin Lifetime

Why you should not restructure within the existing Unit?

- 1 Reach the financial targets EPS of \$5 by 2020 and grow dividend
- 2 Reduce the risk involved in restructuring activities
- 3 Ease of communication to customers

Implementation

Corporate Venture Capital Unit

Boost Digital Growth - \$200M

Why?

- Less riskier than inhouse-development
- Get practical ideas for digital growth
- Eventually acqui-hire the best

How?

- Find companies within focus on building-as-a-service
- Invest into approx. 30 companies with a minor stake
- Help them grow

Implementation Communication

Clients

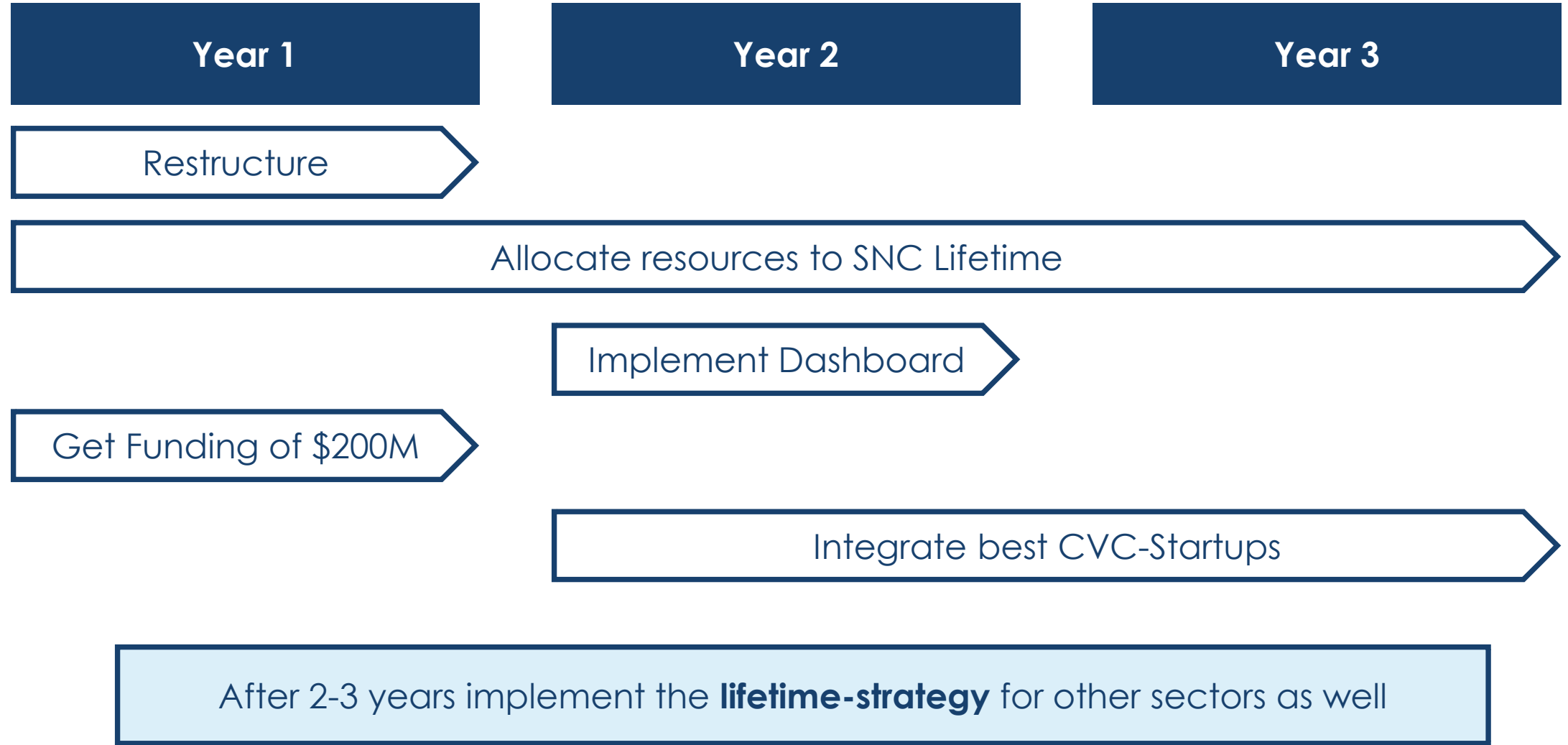
- Communicate that lifetime costs are lower with the new model
- Create Relationships

Investors

- Communicate reasons CVC
- Investment in Construction has almost doubled in one year

Increase Net Promotor Score to >90

Implementation Timeline



Content

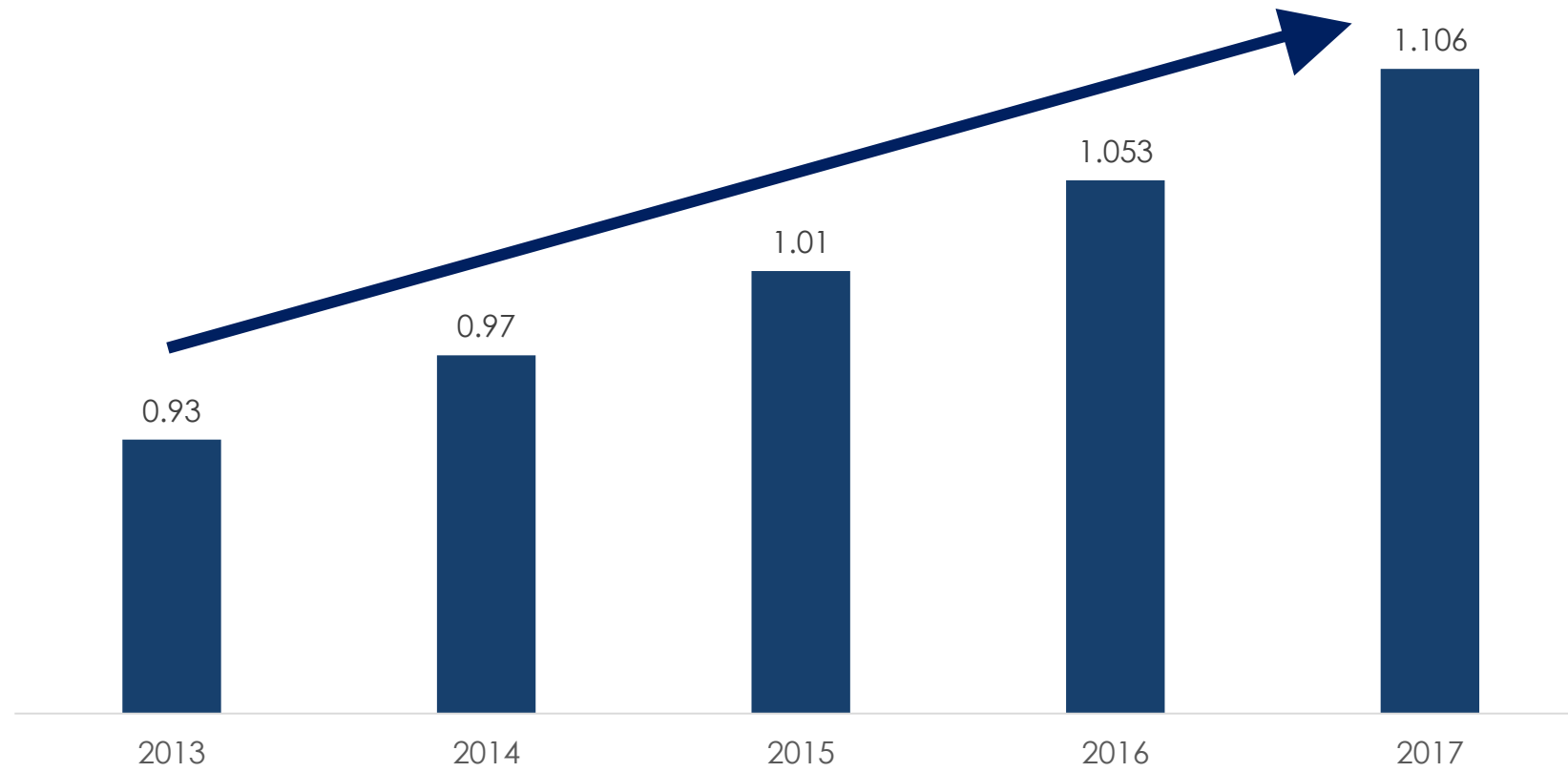


Current Situation

Financials

Pressure to Increase Dividends

Declared Dividend Per Share



Financials

Debentures Maturing in 2019

Debentures
\$350 Million Maturity: July 2019
\$300 Million Maturity: November 2020
\$150 Million Maturity: March 2019
\$175 Million Maturity: March 2021
\$200 Million Maturity: March 2023
\$150 Million Maturity: June 2019

Total Debt: \$3.2 Billion

Financials

Debentures Maturing in 2019

Debentures
\$350 Million Maturity: July 2019
\$300 Million Maturity: November 2020
\$150 Million Maturity: March 2019
\$175 Million Maturity: March 2021
\$200 Million Maturity: March 2023
\$150 Million Maturity: June 2019

Total Debt: \$3.2 Billion

Financials

Huge Chunk of Income from 407 ETR

	SNC-Lavalin	Peers Group Average	Peers Group incl. Canadian Peers Average
Share price	\$47.00		
Less H407	(27.97)		
Less other concessions	(3.02)		
Adjusted E&C price	\$16.01		
2019 adjusted EPS from E&C consensus	\$3.13		
E&C P/E Multiple	5.1	11.3	12.5

Building-as-a-Service

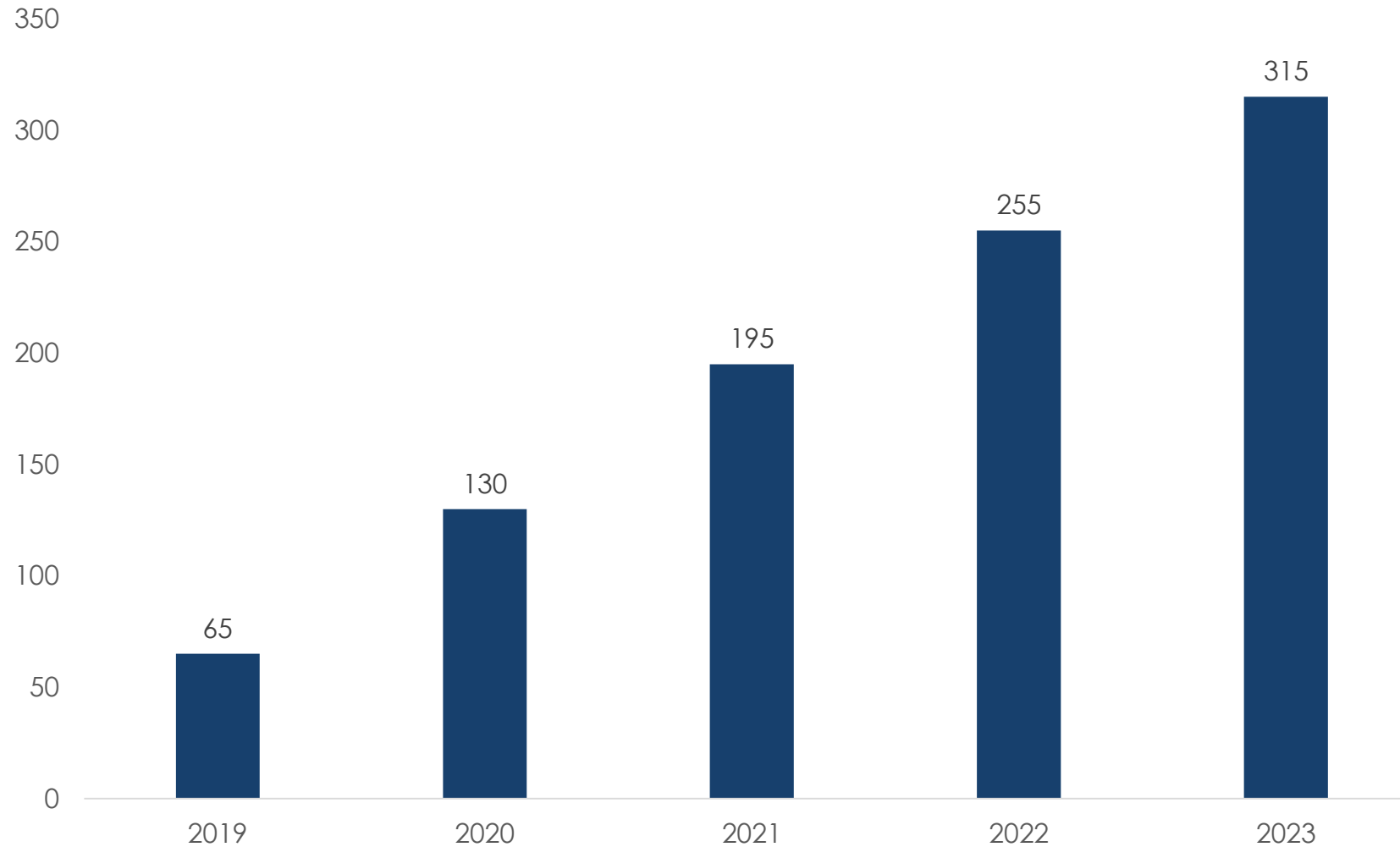
Financials

Building-as-a-service Cost

Type	Investment
Labor costs	2.500 New Employees ~\$25 Million/year
CVC	\$200 Million invested within 5 years \$40 Million/year
Restructuring cost	~\$5 million/year for 3 years

Financials

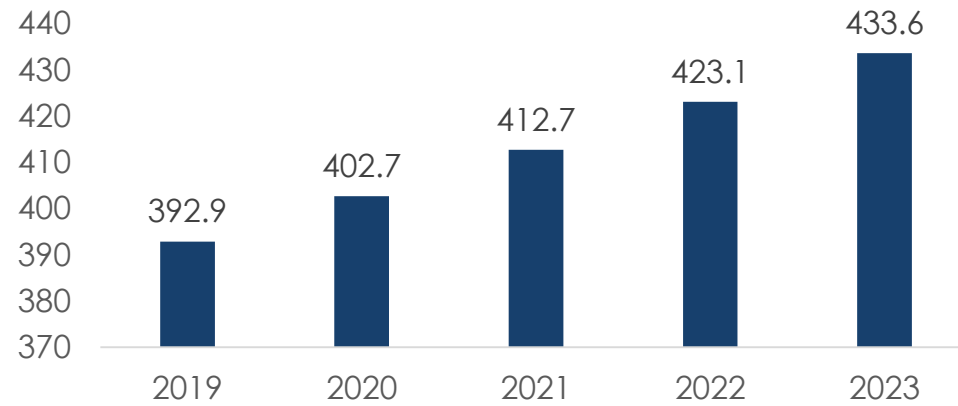
Cumulative Costs



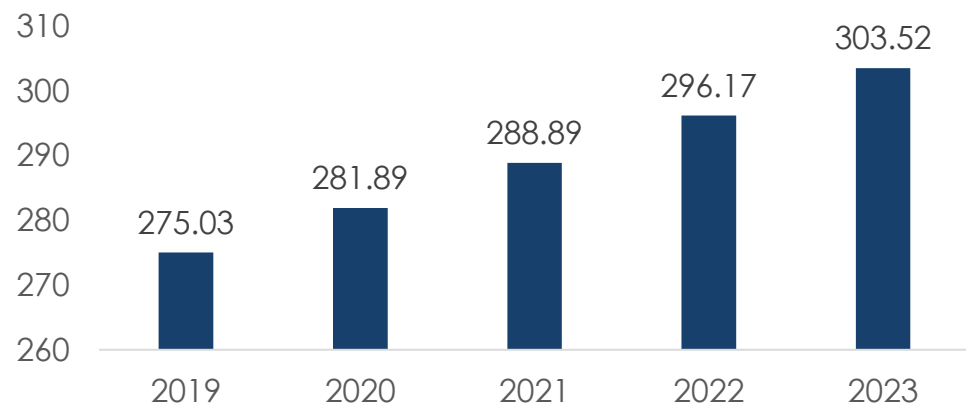
Financials

Funding of the New Model

Net Income



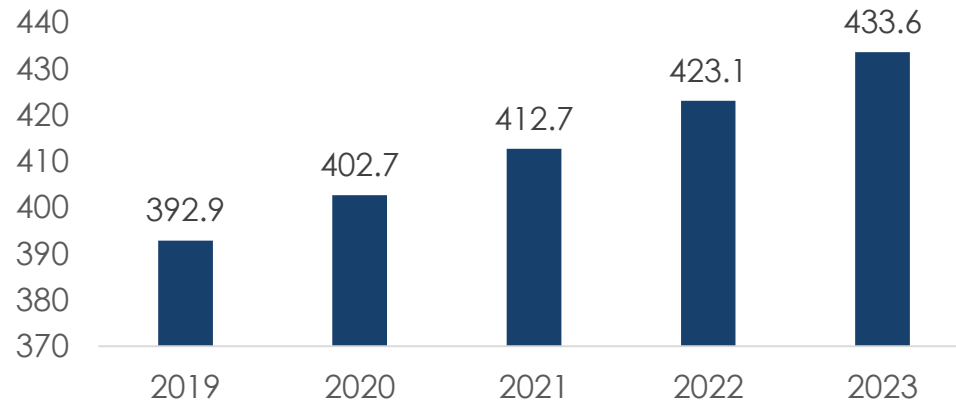
Income after Dividends



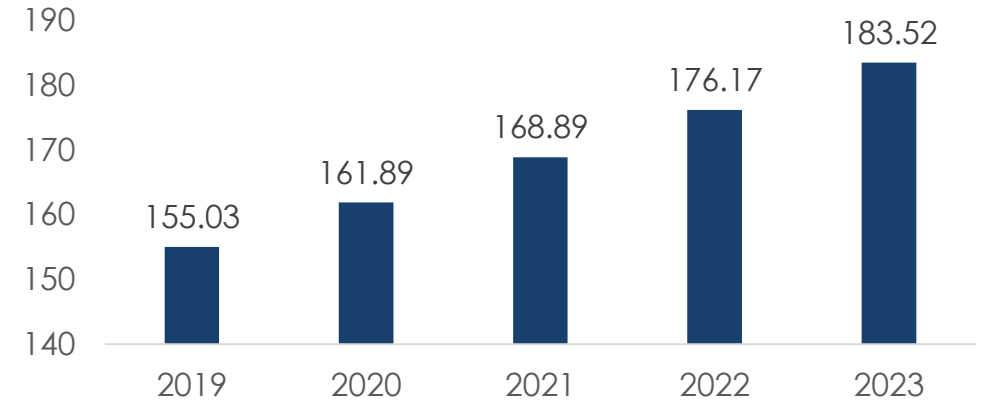
Financials

Funding of the New Model

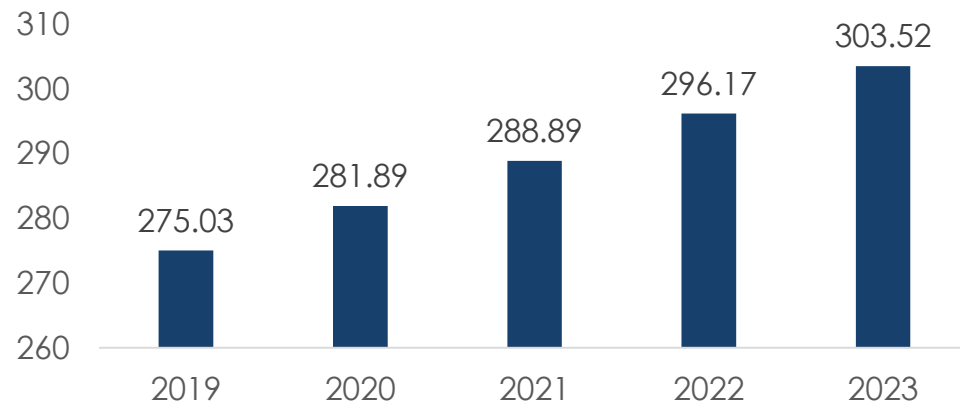
Net Income



Cash Flow for Investment



Income after Dividends



Key Assumptions:

Revenue 2018: \$10B
Revenue Growth: 2.5%
Plowback Ratio: 70%
Net Margin: 4%
Interest Payments: \$120M

Financials

Revenue Model

Before:
Pay per hour/Lump sum

Building-as-a-service:
Pay for a functioning building

Financials

Revenue Model

Before:
Pay per hour/Lump sum

Revenue from Projects

Building-as-a-service:
Pay for a functioning building

Revenue from Projects
and **recurring revenue**
from predictive
maintenance

Financials

Revenue Model

Before:
Pay per hour/Lump sum

Revenue from Projects

Pay for lamps and electricity

Building-as-a-service:
Pay for a functioning building

Revenue from Projects
and **recurring revenue**
from predictive
maintenance

Pay for Light

Risks & Mitigation

Risk	Probability	Impact	Mitigation
Clients not interested	Med	High	<ul style="list-style-type: none">-Communicate effectively-Emphasize cost savings and customer satisfaction
Cybersecurity	Med	Med	<ul style="list-style-type: none">-Invest in data security and breach prevention
Outside competition	Low	High	<ul style="list-style-type: none">-Act fast-Foster excellent relationships with clients

You asked us...

“How will digital transformation affect our business?”

“How should our design engineering business change it’s business model?”

“How do we fund digital investments?”

“What should we tell investors?”

How can SNC-Lavalin achieve **digital growth**?

Focus on Implementing Disruptive Technologies During Building **Design, Construction & Maintenance**

Offer a Life-Cycle **BaaS-Model** to fully grasp digital disruptions

Raise a **corporate venture capital** fund to stay at the cutting edge of digital disruption

Achieve **Sustainable & Unprecedented** Digital Growth