

# Developer to CTO

CS 7002

# Technical direction

# What is technical direction?

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Provide **vision, strategy, governance, tactics, leadership, culture, organisation** and **planning** to the technology of a company.

It is the guardian of the **productivity** and **sustainability** of the **tech products/services, information system** and **team**.

# What are the “C levels”?

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CEO (Chief Executive Officer)

CTO (Chief Technology Officer)

CFO (Chief Financial Officer)

CIO (Chief Information Officer)

COO (Chief Operating Officer)

CCO (Chief Compliance Officer)

CKO (Chief Knowledge Officer)

CSO (Chief Security Officer)

CDO (Chief Data Officer)

CMO (Chief Marketing Officer)

**Vision**

**Strategy**

**Expertise**

# The roles of the CTO

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- Vision & Strategy
- Tactics
- Organisation
- Leadership
- HR
- Engineering
- Consultancy
- Legal
- Enabler
- Culture

*Of the technology*

# Vision & Strategy

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Technology is a **cost** before everything, it has to provide ROI

**Understanding** the global scope of **the technology role** is key

Therefore, the CTO needs to bring its **vision** on the **opportunities** and **threats** associated to the tech role in the company's vision.

**Iteratively design** and **communicate** about the technology strategy as part of the company strategy.

# Tactics

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Strategy vs tactic?

Take care about building “**the right stuff**”

→ hacker mindset

Don't be too **cheap**, neither too **perfect**

Tactics come with **experience**. Experience comes with **try & error**

# Organisation

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**Iterate** also on **how** the tech team should work from **inside** & **outside**

- **Define guidelines** for the “process of building tech”. Use what you feel to be the right way in known tech team methodologies
- **Be the guardian** of the “contracts” your team external interactions



# Leadership

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## BOSS

Take advantage

Blame

GO!

"I"

Intimidate

Command

Know "how"

Take credit

## LEADER

Empower

Fix

Let's go!

"We"

Rely

Ask

Show "how"

Give credit

# HR

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Always include it in your roadmap: manage the **timing & cost**

→ your team is the most important “resource”

Define **what skills** you **need**

Define **what people** you **want**

Give them the importance they deserve (pay, attention, credit ...) or not.

*“Don’t hire someone you wouldn’t spend a weekend with”*

# Engineering

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Is it possible to be CTO without knowing how to code?

The CTO should be a “**super engineer**”, **understanding** all aspects of tech to able to **make decisions**

- code
- architecture
- infrastructure

Be **flexible** and **smart** on **the CTO you are**, and adapt your **organisation**

Remember the CTO is often not the best coder.

# Consultancy

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Be the reference for any technological matter of your company stakeholders

- teaching & brainstorming with other C-levels
- explaining to investors
- helping customers

Staying up-to-date might be the biggest challenge.

# Legal

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Developer should understand **basics of law and finance**. It is very rational.

The CTO needs to be a resource for topics like:

- Terms and conditions
- Service Level Agreements
- GDPR

# Enabler

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**Branding** is key in life, because **perceived value** is too.

- Popularize your tech
- Enable sales
- Make the tech a competitive argument
- Allow things you are feeling

# Culture

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Culture is a set of common habits that define the “normality”

You must be:

1. The **promoter of tech culture** in your company
2. The **guardian & initial leader** of the **tech culture blooming** inside the tech team

# The CTO evolution: 0 to 1

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10% vision & strategy, 70% engineering, 10% enabler, 5% legal, 5% culture

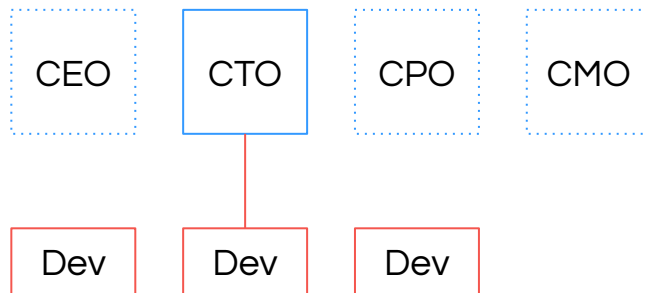




# The CTO evolution: 1 to 1,000

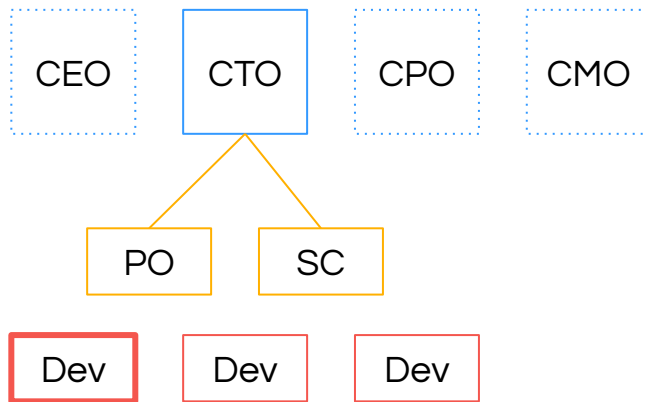
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10% vision & strategy, 30% engineering, 30% HR, 30% organisation & tactics, 10% enabler, 5% legal, 5% culture



# The CTO evolution: 1,000 to 1,000,000

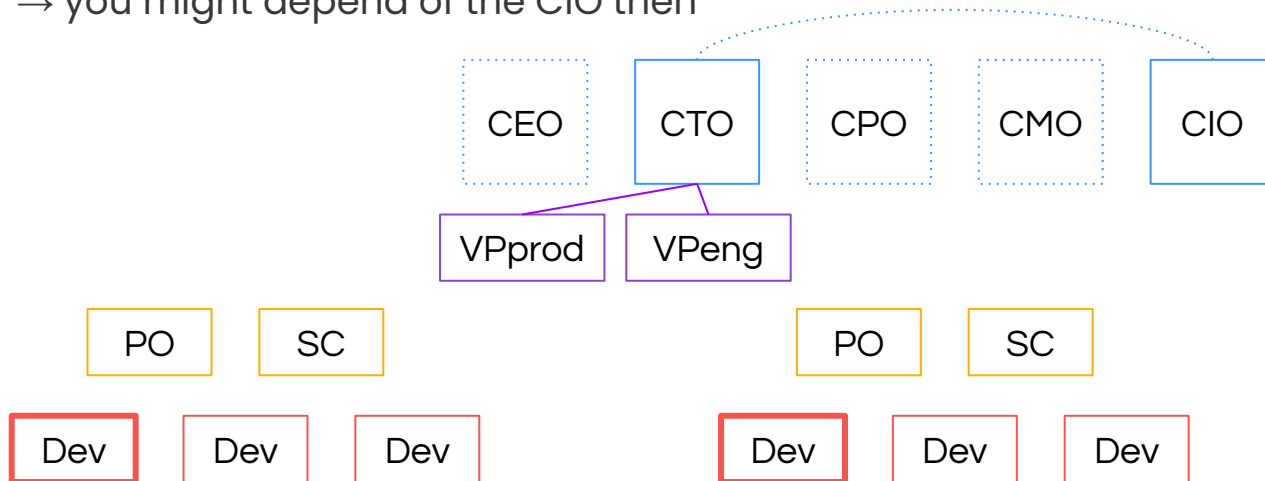
20% vision & strategy, 10% engineering, 20% HR, 30% organisation & tactics, 15% enabler, 5% culture



# The CTO evolution: 1,000,000 to 1,000,000,000

30% vision & strategy, 20% HR, 30% organisation, 20% enabler, 10% culture

→ you might depend of the CIO then



Developer to CTO - Romain Untereiner - 2021

# Session learnings

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- The roles of technical direction
  - Strategy
  - Management
  - HR
  - Engineering
  - Consultancy
  - Legal
  - Enabler
  - Culture

# Next session

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- Setup your technology
- Conceive solution from the need
- Dream and break things into small parts
- Don't underestimate tooling