

# Why Roche is Investing in **We All Sing** Open Source Software for Clinical Reporting

PHUSE US Connect 2023

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# History Lesson



Pharma has relied on **commercial software** to support filings for 20+ years

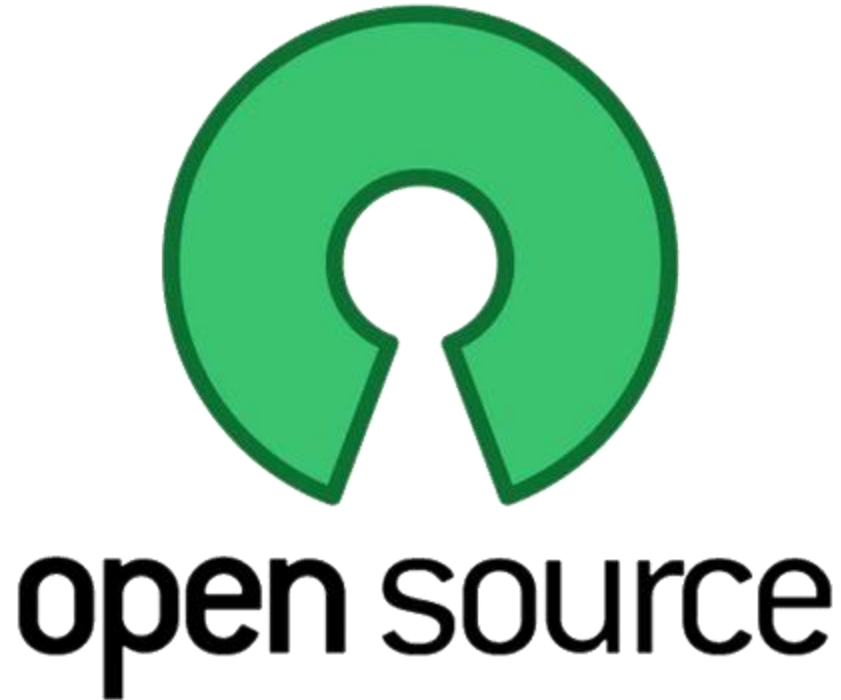
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**Negligible progress** has been made in terms of analysis and reporting capabilities

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Data Science outside Pharma evolved at a **rapid pace**

Open-Source is the Home of Innovation



# Roche's Goal



Shift towards  
a language  
agnostic, open-  
source centered  
framework

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From 2023  
onwards new  
studies will us R  
as their core data  
science tool

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Refactored our  
codebase to  
enable end-to-  
end reporting in  
R

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*“I understand why you are adopting open-source software but **why invest in building it?** Why not keep code in house?”*

## I. Collaboration

Open-source software **enables collaboration** with other organizations, which can lead to **faster development** and more **comprehensive testing and validation** of the software.

## II. Rapid Innovation

Because open-source software is often developed collaboratively, it can benefit from a **faster pace of innovation** than proprietary software. New features and capabilities can be added more **quickly**, and bugs and issues can be addressed more **efficiently**.

### III. Cost Savings

Open-source software can be developed and maintained at a **lower cost** compared to proprietary software, as the development and maintenance **costs are distributed** across a larger user and developer base.



## IV. Transparency

Open-source software is **transparent**, meaning that all users have access to the source code and can review it, test it, and provide feedback. This can **increase confidence** in the software and make it easier to identify and address issues.

## V. Reproducibility

Open-source is hard requirement for **reproducibility**. Only open-source code can guarantee that someone other than the original author can reproduce a particular analysis.

## VI. Access to Talent

Open-source software development can **attract a wider pool of talent**, including volunteers and independent developers who are passionate about the project. This can bring **new perspectives and ideas**, and can help the project to grow and evolve over time.

## VII. Standardization

Open-source software can help to **standardize the submission and review of regulatory data**, which can **improve consistency and accuracy** across different submissions.

*“Why are we giving away code that we invested **millions** in for free?”*

*“Are we losing a **competitive advantage** by open-sourcing code?”*

*“How do we ensure **high code quality**? Who’s **responsible** when bugs are found?”*

Doing now what patients need next