

PP24 Building An Efficient R Framework From Scratch

Ambition

Novartis SP started its R journey in late 2020 with one of the goals being to cover double-programming using R.

This ambition rapidly raised the question: how can we scale up the R usage through the SP community? The point of having training material rapidly became central.

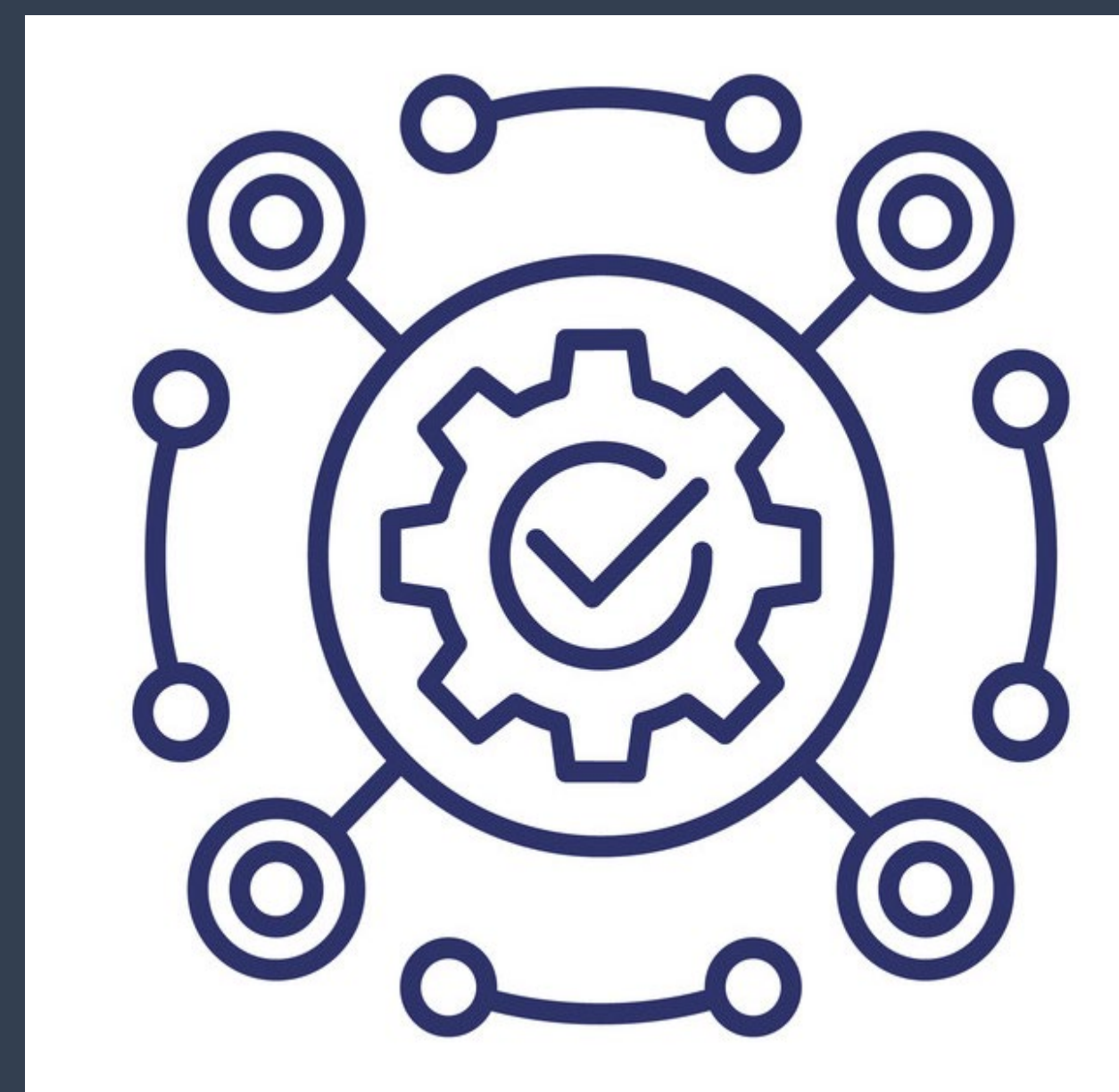
In this presentation, we introduce the R framework that enabled us to build our internal R training course. It is broken down into 3 pillars:

- RStudio features and packages
- Gitlab as Version Controlled System
- Bold innovative mindsets

Join us to understand how this combination yielded great achievements and prepares for the next ones!

History

- 1 Nov 20: Business Need Identification: **Training**
- 2 Jan 21: Team Gathering Around Content Creation
- 3 Jan 22: Embracing Gitlab framework
- 4 Jan 23: Scaling-up The Delivery



Novartis R Framework

RStudio



- {stripf} + {arsenal} packages
- Rmarkdown + RStudio connect
- Rprojects and Git integration

Mindset



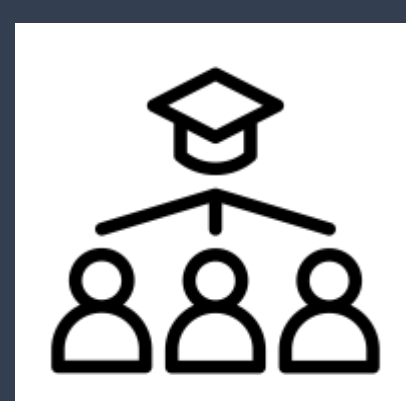
- Curiosity and thinking out of the box is key
- Agility : a laboratory to experiment different approaches and quick to shift from SAS to R
- Early Adopters will take the reluctant ones

Gitlab



- Central Repository
- Collaborative
- Project management tools

Achievements



Training

10 modules, 15h training, 200+ associates trained
Material built with {bookdown} and deployed with RS Connect



Validation approach

Importation of dataset/output and comparison done in validation program
Automatization via our compareTFL() function



Utilities

Function to dynamically create the study paths
Skeleton program

Way Forward



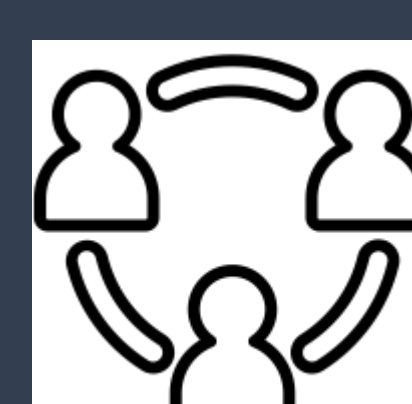
Validation Template Programs

Reproduce results expected from a standard TFL shell
Build functions to produce comparison-ready datasets



Package Development: scale-up the current achievements

Deliver user-defined functions and validation functions through their respective packages
Embrace software development good practice



R Community: contribute rather than consume

Lead internally the good R programming practice
Play an active role in pharmaverse community



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