



Single Day Event

admiral (ADaM In R Asset Library)

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Background



- Roche & GSK had been exploring use of open source languages (primarily R) in areas of clinical reporting such as TLGs, interactive displays and QC
- For ADaM, we each had heavily invested in SAS® macro based tools to achieve our company-specific implementations
- Realisation came from both sides that given the endless nature of ADaM there had to be potential to **collaborate on a modular framework**, to give the platform for this challenge to **enable across-industry crowd-sourcing**
- LinkedIn post -> Video call -> Programming heads talk



Introducing admiral *(ADaM In R Asset Library)*

admiral is an **open source modularized toolbox** that **enables companies and communities** to develop ADaM datasets in R.



Think of **admiral** as a **toolbox of modular** blocks (R functions) →

- each block has a **stand alone** purpose (each function provides a specific functionality)
- Data Scientists can create their **own** blocks (create own R functions)

Constructing an ADaM dataset should become like building out of blocks that are based on admiral modular functions and user-created modular functions.

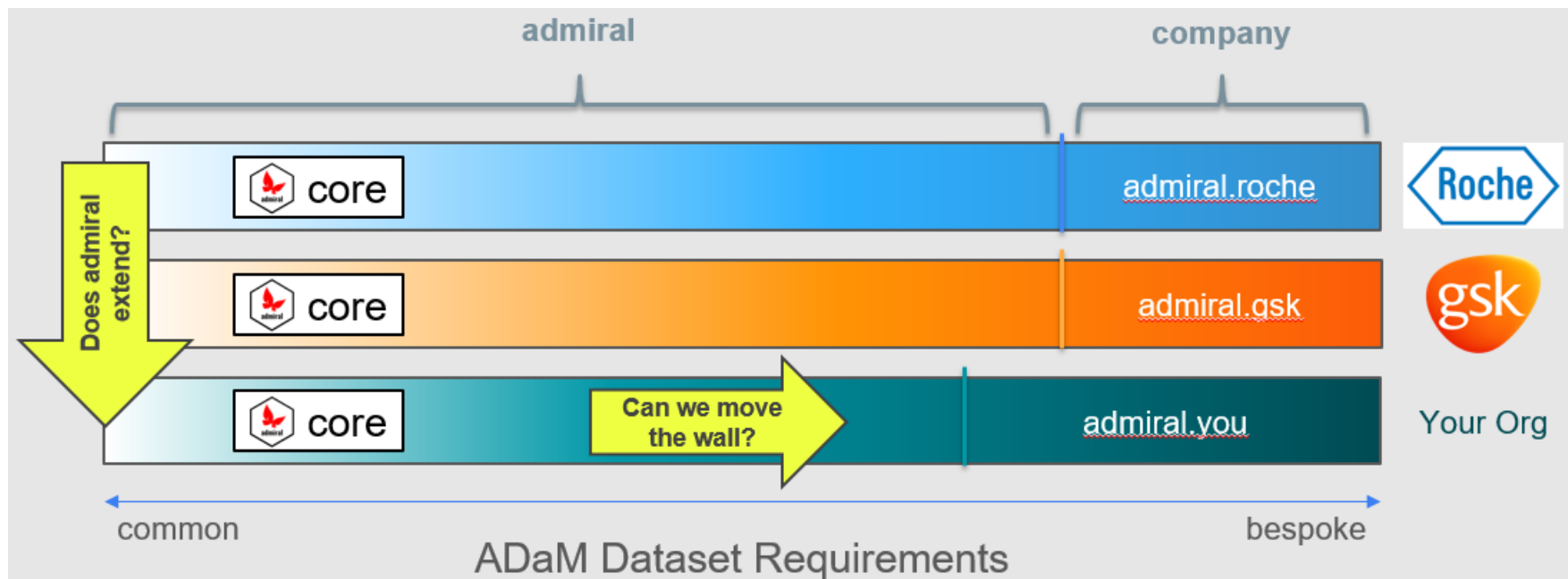


What's in it for you?

- **As a company: harmonization & robustness**
 - A robust framework for R-based ADaM shared ready-to-use modules
 - Imagine ADaM code becomes more transparent across the industry (QC, readable code, talent flow)
- **As a Data Scientist: contribute to something bigger**
 - An option to make a name for yourself in the Pharma open-source community (i.e. an extension of just sharing a paper), and an avenue to collaborate with other like-minded people across the world
 - Share, re-use and inheritance as a community instead of re-inventing the analysis for each study
- **Patients & Society: concentrate on the right work**
 - If we can collectively reduce the burden of ADaM across-industry, imagine the data scientist skills and resources this unleashes towards making more with the insights of our data, and the speed at which we're able to bring treatments to patients



How we see industry collaboration working?





Tech details

- R functions include example calls and are unit tested (with >80% coverage level) to create the common standards for the following datasets:
 - *ADSL (~50%)*
 - *BDS: ADVS, ADEG, ADEX (70-80%)*
 - *OCCDS: ADAE, ADCM (80%)*
- Documentation contains vignettes on how to create ADSL, BDS and OCCUR datasets, including example scripts, but functions can also be used for other datasets
- Tested across various SDTM & ADaM versions
- R Platform / Environment: no explicit requirements. Suggest $R \geq v3.5$.
- Direct Package Dependencies: *assertthat*, *dplyr*, *lubridate*, *magrittr*, *purrr*, *rlang*, *stringr* and *tidyr*



Demo

admiral site: <https://roche-gsk.github.io/admiral/index.html>



Status & Next Steps

- Our team are currently focused on enhancing the package for the feedback we received during a recent external testing phase with 17 other companies
- We target a permissive licensed open source release ~end of this year, but our site and code repo (<https://github.com/Roche-GSK/admiral/>) are already open to explore
- If you are interested to use and contribute to admiral, then please do reach out to ross.farrugia@roche.com & michael.s.rimler@gsk.com
- We envisage forming a community to help us maintain and grow this resource for the benefit of all our industry, whilst supporting one another as users

Any Questions?



**The Global Healthcare
Data Science Community**

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