

Package ‘SCIproj’

March 18, 2026

Type Package

Title Creates a Scientific Project Skeleton as an R Package

Version 1.0.0

Description Provides a template for new research projects structured as an R package-based research compendium. Everything - data, R scripts, custom functions and manuscript or reports - is contained within the same package to facilitate collaboration and promote reproducible research, following the FAIR principles.

Language en-US

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Depends R(>= 4.1.0)

Imports usethis (>= 2.0.0), rstudioapi

Suggests knitr, renv, rmarkdown, targets, testthat (>= 3.0.0), withr

VignetteBuilder knitr

Config/testthat/edition 3

RoxygenNote 7.3.3

Encoding UTF-8

URL <https://github.com/saskiaotto/SCIproj>

BugReports <https://github.com/saskiaotto/SCIproj/issues>

NeedsCompilation no

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Repository CRAN

Date/Publication 2026-03-18 10:50:10 UTC

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 create_proj

Create new data analysis project as R package

Description

Create all the scaffolding for a new project in a new directory. The scaffolding includes a README file, different folders to hold raw data, analyses, etc, a `_targets.R` pipeline template, `renv` dependency management, and a `CITATION.cff` file. Optionally, initialize a git repository and/or set up a private or public GitHub repo with GitHub Actions CI.

Usage

```
create_proj(
  name,
  data_raw = TRUE,
  makefile = FALSE,
  testthat = FALSE,
  use_pipe = FALSE,
  add_license = NULL,
  license_holder = "Your name",
  orcid = NULL,
  use_git = TRUE,
  create_github_repo = FALSE,
  private_repo = TRUE,
  ci = "none",
  use_renv = TRUE,
  use_targets = TRUE,
  use_docker = FALSE,
  open_proj = FALSE,
  verbose = FALSE
)
```

Arguments

name	Character. Name of the new project. Could be a path, e.g. <code>"~/myRcode/newproj"</code> . A new folder will be created with that name. The directory name can contain underscores or hyphens (e.g. <code>"my_project"</code>) — these will be automatically converted to dots for the internal R package name (e.g. <code>my.project</code> in DESCRIPTION).
data_raw	Logical. If TRUE (default), adds a <code>data-raw/</code> folder for all the raw data files, including a <code>clean_data.R</code> script file for generating clean datasets, a <code>DATA_SOURCES.md</code> for documenting data provenance (source, license, download date, DOI), and a README.
makefile	Logical. If TRUE, adds a template <code>makefile.R</code> file to the project.
testthat	Logical. If TRUE, adds testthat infrastructure.

use_pipe	Logical. If TRUE, adds magrittr's pipe operator to the package. Default is FALSE since R >= 4.1.0 provides the native pipe operator > which is recommended instead.
add_license	Character. Type of license to add. Options are "MIT", "GPL", "AGPL", "LGPL", "Apache", "CCBY", or "CC0". Default is NULL (no license added).
license_holder	Character. Name of the license holder / project author. Also used in CITATION.cff. Default is "Your name".
orcid	Character. ORCID iD of the project author (e.g. "0000-0001-7986-0308"). Used in CITATION.cff. Default is NULL.
use_git	Logical. If TRUE (default), initializes a local git repository.
create_github_repo	Logical. If TRUE, creates a GitHub repository. Note this requires some working infrastructure like git and a GITHUB_PAT. See https://usethis.r-lib.org/articles/articles/usethis-setup.html .
private_repo	Logical. If TRUE (default), the GitHub repo will be private.
ci	Character. Type of continuous integration for your GitHub repository. Options are "none" (default) or "gh-actions" (uses GitHub Actions with R CMD check). Only used when create_github_repo = TRUE.
use_renv	Logical. If TRUE (default), initializes renv for dependency management. Creates a lockfile and .Rprofile bootstrap.
use_targets	Logical. If TRUE (default), adds a _targets.R template file for pipeline-based workflow management.
use_docker	Logical. If TRUE, adds a template Dockerfile for building a reproducible computational environment.
open_proj	Logical. If TRUE, opens the newly created RStudio project in a new session. Default is FALSE — open the .Rproj file manually after creation.
verbose	Logical. If TRUE, prints verbose output in the console while creating the new project. Default is FALSE.

Details

SCIproj creates a research compendium that combines **structure** (where files live) with **workflow** (how analyses are reproduced). By default, it sets up:

- renv for dependency management (reproducible package versions)
- targets for pipeline-based workflow (automatic dependency tracking and caching)
- CITATION.cff for machine-readable citation metadata (FAIR)
- DATA_SOURCES.md for data provenance documentation

Since R >= 4.1.0, the native pipe operator |> is available and recommended over the magrittr pipe %>%. The use_pipe parameter is therefore set to FALSE by default.

Value

Invisibly returns the path to the new project directory.

Examples

```
## Not run:
library("SCIproj")

# Minimal project (includes renv + targets by default)
create_proj("myproject")

# Names with underscores/hyphens are fine - the R package name is
# auto-cleaned (e.g. "baltic_cod" -> "baltic.cod" in DESCRIPTION)
create_proj("baltic_cod_analysis")

# Full-featured project
create_proj("my_research_project",
  add_license = "MIT",
  license_holder = "Jane Doe",
  orcid = "0000-0001-2345-6789",
  create_github_repo = TRUE,
  ci = "gh-actions"
)

# Minimal without workflow tools
create_proj("myproject", use_renv = FALSE, use_targets = FALSE)

## End(Not run)
```

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