

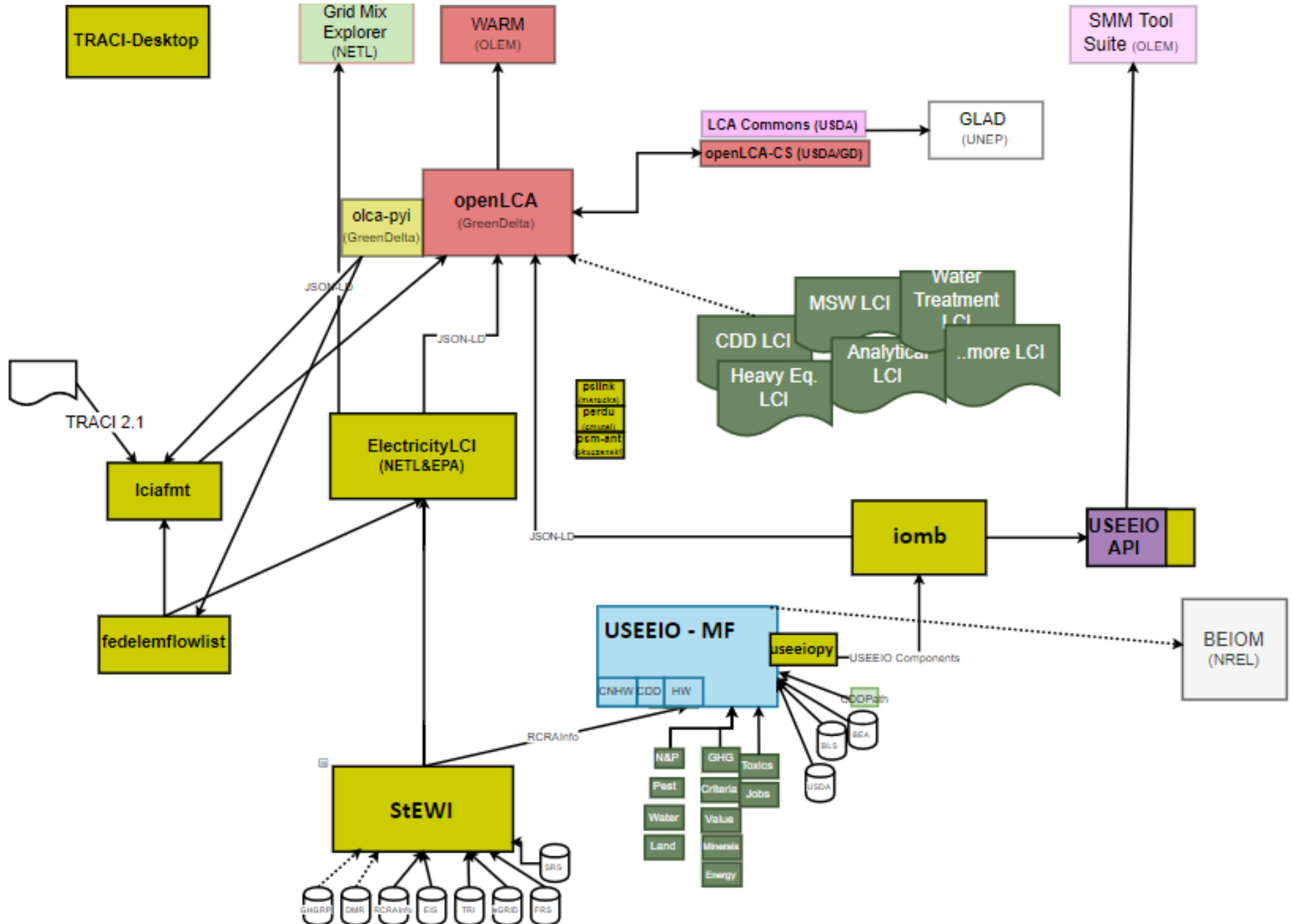
LCA Tool Ecosystem

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Disclaimer

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Ecosystem Overview



StEWI

- Provides processed, standardized and combined data from US EPA databases
- [StEWI](#)

fedelemflowlist

- Implements list creation as described in [EPA report -Federal LCA Commons Elementary Flow List](#)

LCIA formatter

- Provides transparent flow conversion and formatting of LCIA methods from LCIA method providers to LCA tool importable format -[lciafmt](#)

Electricity LCI

- Provides complete life cycle inventory for regionalized US electricity
- [Electricity LCI](#)

USEEIO tools

- [USEEIO](#) is our EEIO model for the US with ~400 goods and service categories
- Build models with [USEEIO Modeling Framework](#), uses [IO Model Builder](#) to export models for the API
- [USEEIO API](#) serves model results and metadata
- New tools - Flow Sector Attribution models (FLOWSA)
- USEEIO will serve the EPA Sustainable Materials Management Prioritization Tool Suite (forthcoming)

Drivers for Tools

- EPA program need driven
- Headquarters, regions, and states/tribes are the clients for end-products
- Written into our ORD strategic Research Action Plans
- The [Federal LCA Commons](#) provides the standards for final LCA outputs

Why Tools?

- Preservation of knowledge
- Availability of methods
- Reproducible
- Good science/engineering practice

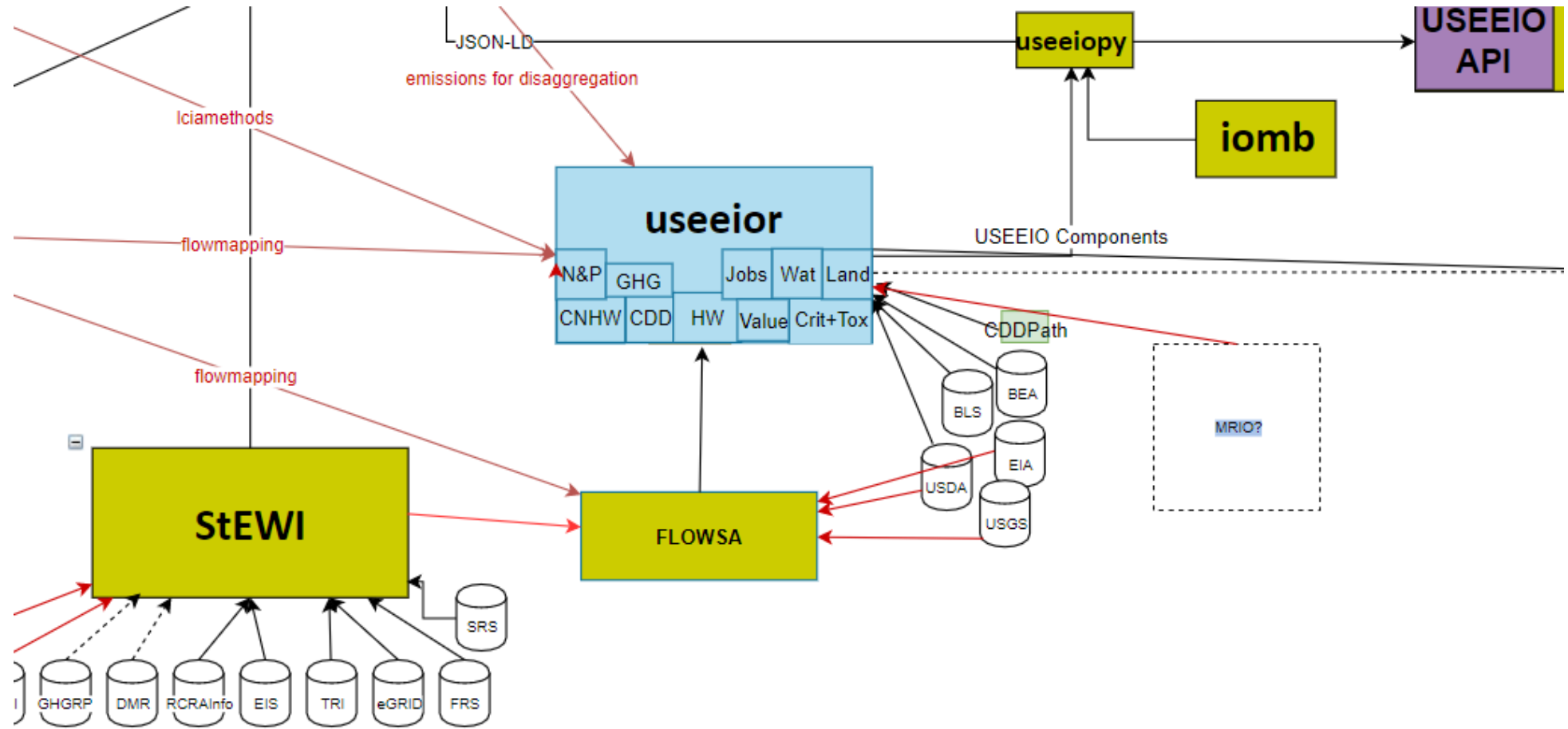
Tools - Design

- Modularity and connectivity
- Design for internal and skilled external users
- Use platform independent, open source toolkit
- Create a transparent, reproducible data flow
- Produce standard formats
- Make it flexible
- Use standard operating procedures (SOPs)
- Write and use tests
- Package It

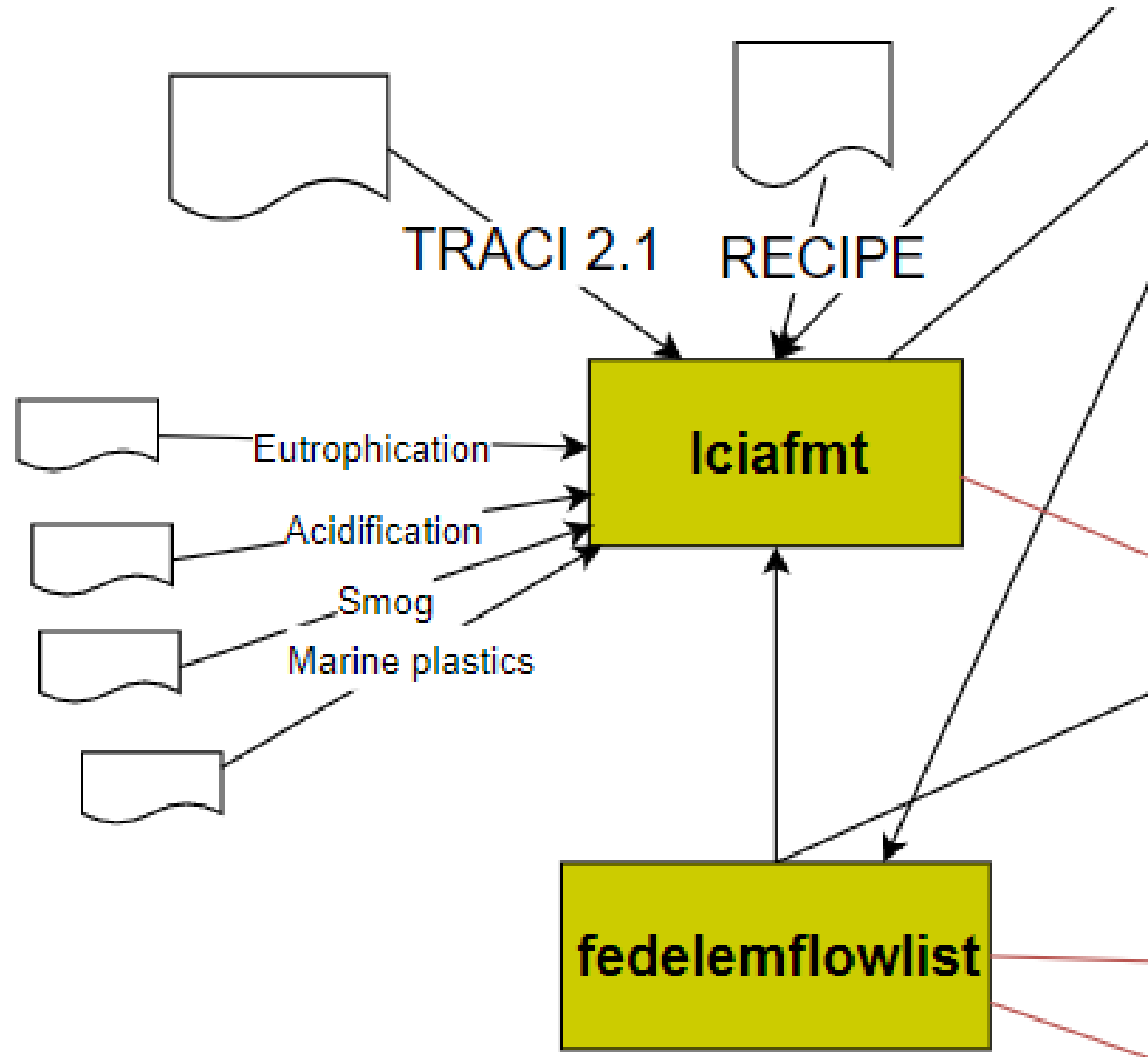
Tools - Management

- git(hub) management and collaboration
 - Use versioning and releases
 - Use forks and pull requests
- Build partnerships
- Story: [ElectricityLCI](#)

USEEIO Near-Term Plans



LCIA Plans



Future Needs

- Connect USEEIO to a global MRIO
- Material tracking and IO
- Model hybridization

Discuss collaboration opportunities



Acknowledgements and Contact Info

Additional Contributors to Highlighted Tools: [Michael Srocka](#), [Mo Li](#), [Matt Jamieson](#), [Greg Schivley](#), [TJ Ghosh](#), [Matt Bergmann](#), [Mike Liadov](#), [Jose D. Hernández-Betancur](#), [Ashley Edelen](#), [Troy Hottle](#), [Ben Young](#), [Daniel Young](#), [David Meyer](#)

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