

## Topics for Implementing the SuMSO

This is a non-exhaustive list of topics to cover in future implementations of SuMSO. These implementations will allow to detail and expand the representation provided by the SuMSO Ontological Module (SuMSO OM).

SuMSO OM must be implemented by:

- Covering classes addressing additional meat system activities. + Extending the related axiomatization.
- Covering classes addressing additional meat system components and stakeholders.
- Covering additional “perspective” classes corresponding to other meat system components and stakeholders.
- Covering classes addressing activity temporal and spatial-temporal regions.
- Covering classes addressing meat system (and related components) spatial regions.
- Covering classes pointing to meat systems structures, such as restaurants and farms.
- Including additional classes addressing organization/worker roles.
- Including classes to represent machine system workers.
- Including more classes to represent cow meat, cow-deriving material, and pieces of cow.
- Covering additional “interaction” classes, including those encompassing companies as participants.
- Revising meat system component-perspective axiomatization with regards to meat systems activity inputs and outputs.
- Improving the meat system activity axiomatization with regard to well-being. + doing the same for value and meat systems properties, such as resilience and stability.
- Revising the “organism” hierarchy to extend and integrate biological classification and common language classification.
- Improving worker-company role hierarchization.
- Deepening the characterization of agency in activity.
- Extending the representation of values.
- Extending the representation of product, by-product and waste roles.
- Extending the representation of meat supply chain activities to other animals and deepening that on cows with regard to cow types, cow age, and contribution to meat supply chain activities.
- Deepening the representation of certifications, certification issuance processes, and claims.
- Deepening the representation of meat as an animal-deriving item and as a food (and corresponding relationship).
- Deepening the representation of company and organization participation in meat systems processes.
- Deepening the representation of the relation between workers and corresponding companies.
- Deepening the representation of /distinction between organisms and carcasses, especially with regard to death and life.

- Implementing the representation of the relationship between meat system organisms and related anatomical structures.
- Extending the representation of plans, objectives, and related information with regard to meat system activities.
- Extending the representation of meat systems interactions.
- Extending the representation of meat systems sub-activities.
- Expanding the representation of certain meat system components, such as manure or forage, including, for instance, corresponding roles or functions.
- Implementing the representation of organism material and pieces with regard to parthood and derivation from organisms.
- Characterizing the influence of meat system activities and other processes on meat system behaviors and properties.
- Evaluating the possibility to include reference to meat system actions.
- Validating with subject matter experts the representation of supply chains and supply chain activities.
- Discussing whether supply chains are parts of complex systems and/or exist across complex systems. + discussing how to represent these features.
- Discussing the possible relation between corresponding company and worker roles.
- Addressing system granularity (in SCO and making the corresponding revisions in SuMSO).
- Aligning IAO/OBI - CCO - SuMSO representations of plans, plan specifications, and directive information entity.
- Discussing on meat system components perspectives. Do all meat system components have perspectives?
- Discussing organisms as complex systems other than components of some complex (meat) systems.
- Implementing the disambiguation of the term “animal”.
- Revising the usage of the term “organism” with regard to organism material.

Once SuMSO OM has been expanded, additional implementations will establish supplementary modules addressing meat systems centered on other animals, such as pigs and chicken, and meat alternatives, such as novel meats. Interrelations among those meat systems will be equally topic of these further implementations.