FMC diagrams for dynamic structures are based on transition-place Petri nets. They are used to express system behavior over time, depicting the actions performed by the agents. So they clarify how a system is working and how communication takes place between different agents.

Here only the basic notational elements are covered whereas the rest is located on another - more advanced - reference sheet (2/2).

**Basic Elements**

- **Transition**: Stands for an operation, an event or an activity. (Note: verb should be used for identifier “T”)
- **Place**: Represents a control state or an additional condition. (Note: capacity = 1)
- **Directed Arc**: Connects a place and a transition.
- **NOP**: A transition meaning No OPeration. (Note: often used to keep the bipartiteness)
- **Swimlane Divider**: Distinguishes competences of agents.

**Common Structures**

1. **Sequence**
   - Defines that transition T1 fires first, followed by transition T2, followed by transition T3 ...
2. **Concurrency**
   - Means that transitions have no causal ordering. The transitions T1, ..., Tn are concurrent, the firing of T1, ..., Tn has no special order.
3. **Case (Conflict)**
   - Is used to choose one transition among others. Only one of the transitions T1, ..., Tn will fire, depending on the conditions C1, ..., Cn associated to the arcs.
4. **Loop**
   - Is used to repeat the firing. Transition T1 will be repeated as long as condition C1 is fulfilled. Often C2 is not mentioned as it is assumed to be “else”.
5. **Communication**
   - Whenever a swimlane divider is crossed communication takes place. Upon this structure all possible communication types can be expressed (synchronous, asynchronous etc.).