FMC diagrams for dynamic structures are based on transition-place Petri nets. They are used to express system behaviour over time depicting causal dependencies. 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**

<table>
<thead>
<tr>
<th>Place</th>
<th>Transition</th>
<th>Place</th>
</tr>
</thead>
</table>
| Represents a control state or an additional condition.  
(Note: capacity = 1) | Stands for an operation, an event or an activity.  
(Note: verb should be used for identifier “T”) | Connects a place and a transition. |

**further elements**

<table>
<thead>
<tr>
<th>Swimlane Divider</th>
<th>NO P</th>
<th>Distinguishes competences of agents.</th>
</tr>
</thead>
</table>
| A transition meaning No OPeration.  
(Note: often used to keep the bipartiteness) | |

**common structures**

1) Defines that transition T1 fires first, followed by transition T2, followed by transition T3 ….
2) Means that transitions have no causal ordering. The transitions T1, …, Tn are concurrent, the firing of T1, …, Tn has no special order.
3) 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) 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) Whenever a swimlane divider is crossed communication takes place. Upon this structure all possible communication types can be expressed (synchronous, asynchronous etc.).