

A hand in a light blue shirt holds a transparent car model. The car's interior and mechanical parts are visible. A digital network of white lines and blue and yellow nodes is overlaid on the car, suggesting a smart or connected vehicle. The background is a blurred blue and white pattern.

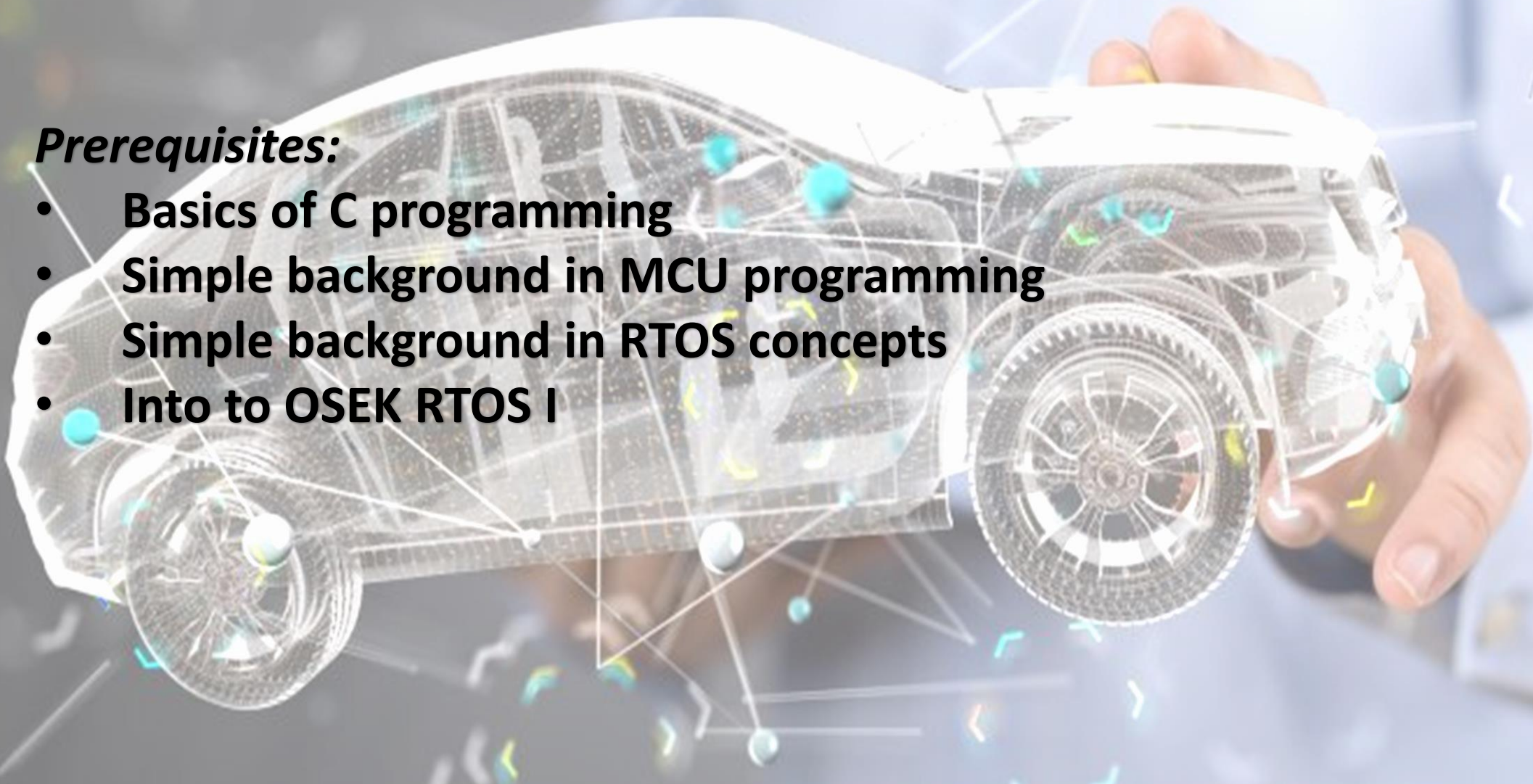
Introduction To OSEK OS II

Sarea Alhariri

Introduction To OSEK OS II

Prerequisites:

- **Basics of C programming**
- **Simple background in MCU programming**
- **Simple background in RTOS concepts**
- **Into to OSEK RTOS I**

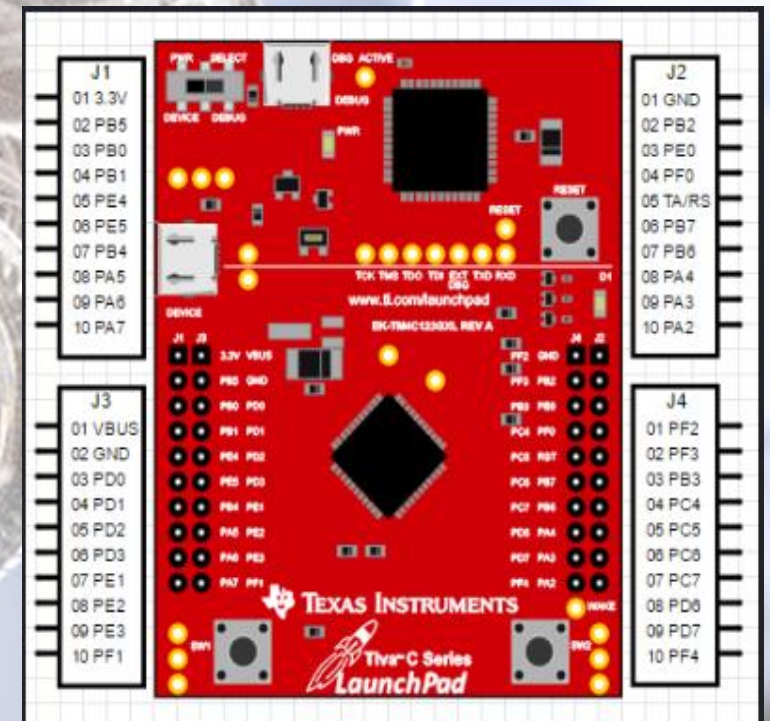


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Hardware & Tools:

- *Keil Uvision 5*
- *Tiva C Launchpad*
- *VSCode or Notepad++ for code editing*



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OSEK OS Arch.

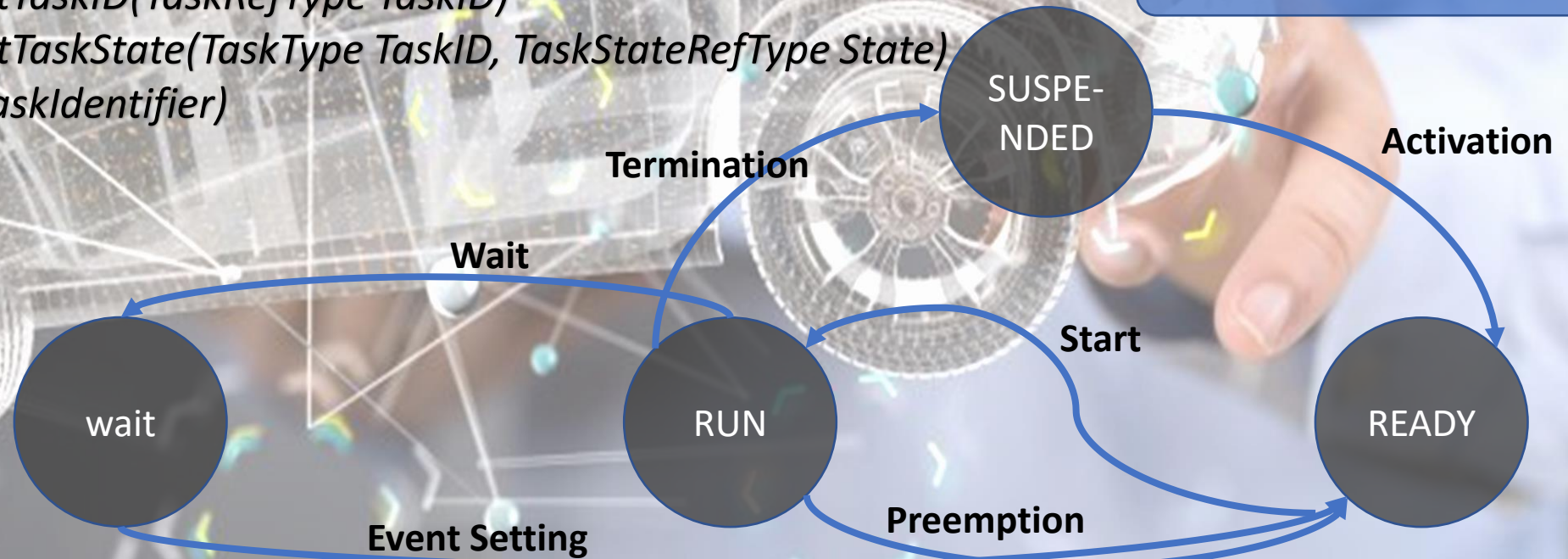
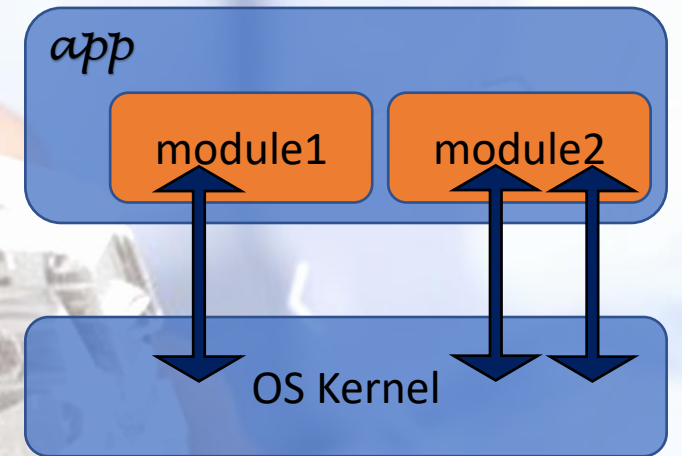


Introduction To OSEK OS II

Quick Review

Task Management Services

- *StatusType* **ActivateTask**(TaskType Task)
- *StatusType* **TerminateTask**(void)
- *StatusType* **ChainTask**(TaskType TaskID)
- *StatusType* **Schedule**(void)
- *StatusType* **GetTaskID**(TaskRefType TaskID)
- *StatusType* **GetTaskState**(TaskType TaskID, TaskStateRefType State)
- **DeclareTask**(TaskIdentifier)
- **TASK**(TaskID)

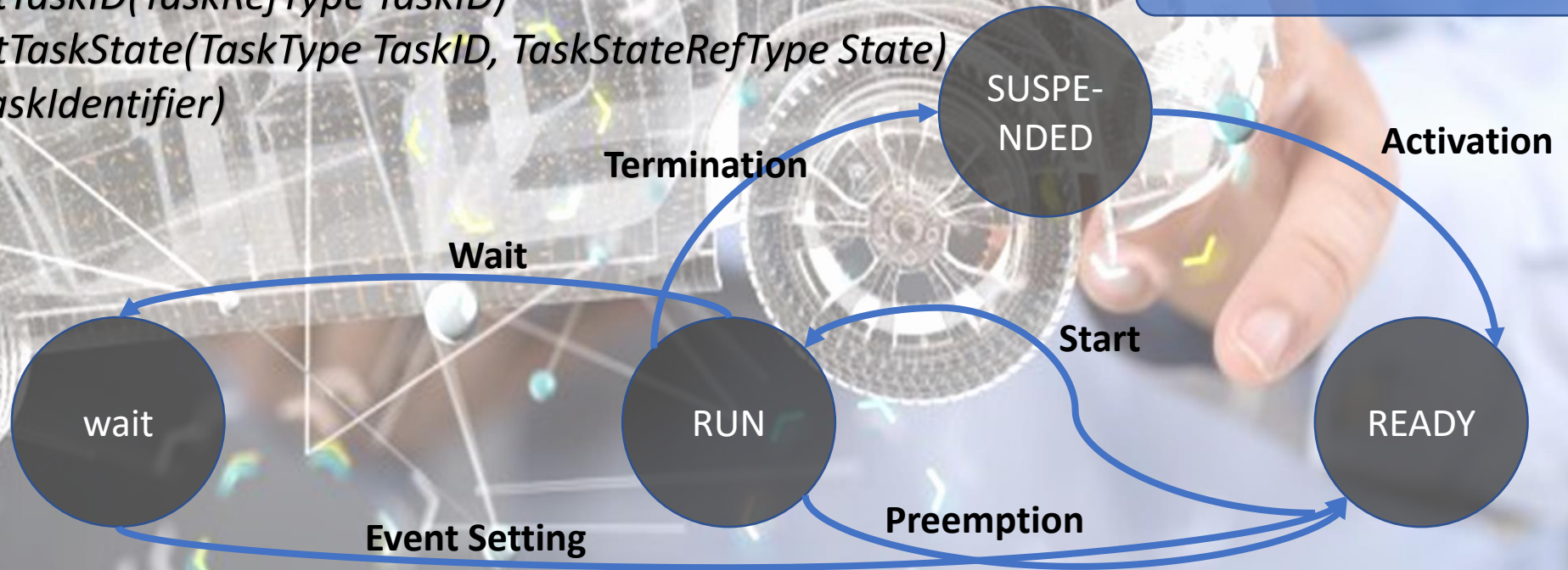
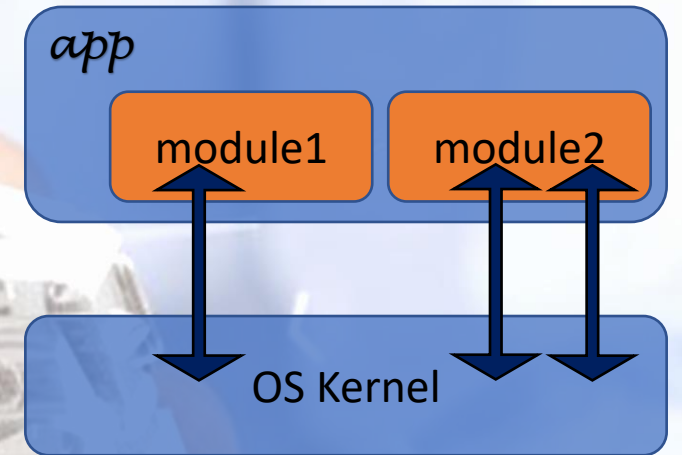


Introduction To OSEK OS II

Quick Review

Task Management Services

- *StatusType* **ActivateTask**(TaskType Task)
- *StatusType* **TerminateTask**(void)
- *StatusType* **ChainTask**(TaskType TaskID)
- *StatusType* **Schedule**(void)
- *StatusType* **GetTaskID**(TaskRefType TaskID)
- *StatusType* **GetTaskState**(TaskType TaskID, TaskStateRefType State)
- **DeclareTask**(TaskIdentifier)
- **TASK**(TaskID)



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Quick Review

Resource Management Services

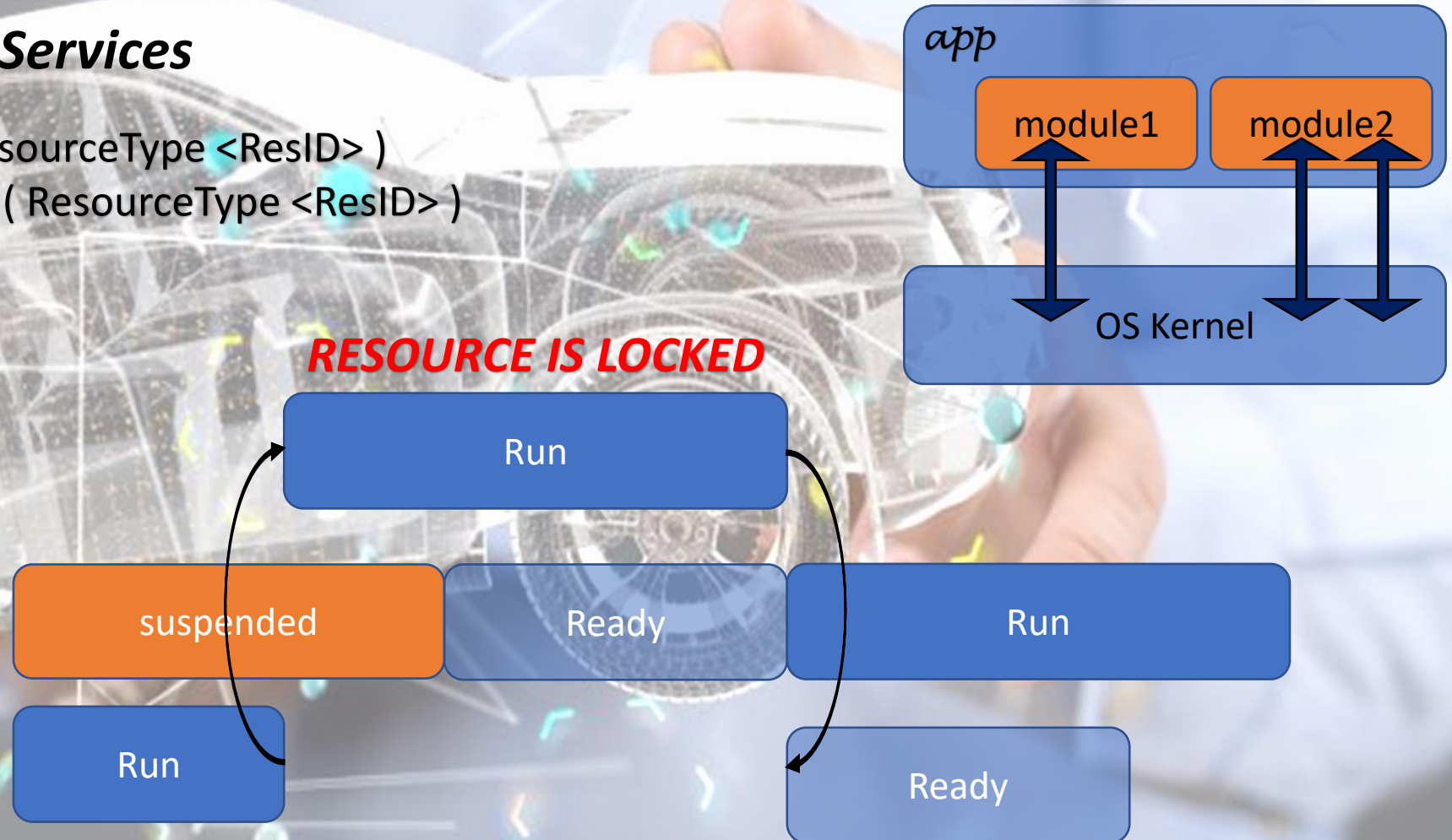
- StatusType GetResource (ResourceType <ResID>)
- StatusType ReleaseResource (ResourceType <ResID>)

RESOURCE IS LOCKED

Ceiling Priority Level

T1 H-Priority

T2 L-Priority



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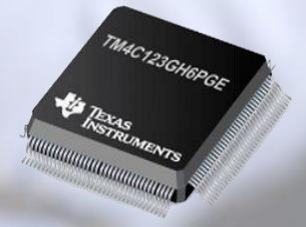
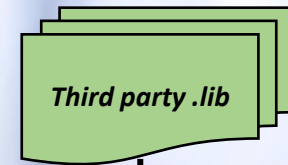
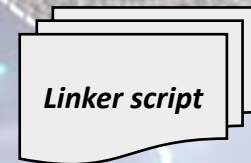
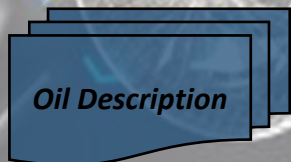
Quick Review

```
OS OSEKOS {  
    ...  
}
```

```
    TASK AppTask_25ms {  
        PRIORITY = 10;  
        SCHEDULE = FULL;  
        ACTIVATION = 1;  
        AUTOSTART = TRUE {APPMODE = AppMode1;};  
        STACKSIZE = 50;  
        RESOURCE = SharedRes
```

```
    TASK AppTask_50ms{  
        ..  
    }
```

```
    RESOURCE SharedRes{  
        RESOURCEPROPERTY = STANDARD  
    }
```



SW Development Cycle in OSEK Environment

