

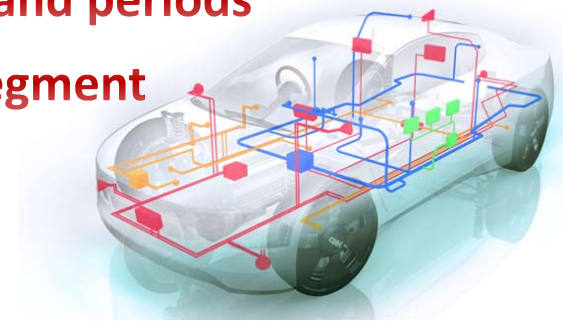
Cumhur Çakmak: Efficient algorithms for the frame packing and slot allocation of FlexRay v3.0 (2017)

Input: Set of ECUs and signals with fixed signal sizes and periods

Output: Transmission schedule for signals in static segment

Goals:

- Use minimum amount of bandwidth
- Use bandwidth with maximum efficiency
- The algorithm must be scalable to large signal sets



	FID0	FID1	FID2
Cycle 0	f1	f2	f4
Cycle 1	f1	f3	f5
Cycle 2	f1	f2	f4
Cycle 3	f1		f5
Cycle 4	f1	f2	f4
Cycle 5	f1	f3	f5
Cycle 6	f1	f2	f4
Cycle 7	f1		f5
Cycle 8	f1	f2	f4
Cycle 9	f1	f3	f5
Cycle 10	f1	f2	f4
Cycle 11	f1		f5
Cycle 12	f1	f2	f4
Cycle 13	f1	f3	f5
Cycle 14	f1	f2	f4
Cycle 15	f1		f5

Direct approach: Impractical ❌

**2-Stage approach with refined search spaces:
Fast Results with High Efficiency** ✅

**Use Integer Linear Programming for
optimality**

