

表 3.3 分解を考慮した製品設計の規準 (16)

Benefits	Criteria
Less disassembly work	<ul style="list-style-type: none"> <li>Combine elements</li> <li>Limit material variability</li> <li>Use compatible materials</li> <li>Group harmful materials into subassemblies</li> <li>Provide easy access for harmful, valuable and reusable parts</li> </ul>
Predictable product configuration	<ul style="list-style-type: none"> <li>Avoid ageing and corrosive material combination</li> <li>Protect subassemblies against soiling and corrosion</li> </ul>
Easy disassembly	<ul style="list-style-type: none"> <li>Accessible drainage points</li> <li>Use fasteners easy to remove or destroy</li> <li>Minimize number of fasteners</li> <li>Use the same fasteners for many parts</li> <li>Provide easy access to disjoining, fracture or cutting points</li> <li>Avoid multiple directions and complex movements for disassembly</li> <li>Set center-elements on a base part</li> <li>Avoid metal inserts in plastic parts</li> </ul>
Easy handling	<ul style="list-style-type: none"> <li>Leave surface available for grasping</li> <li>Avoid non-rigid parts</li> <li>Enclose poisonous substances in sealed units</li> </ul>
Easy separation	<ul style="list-style-type: none"> <li>Avoid secondary finishing (painting, coating, plating etc.)</li> <li>Provide marking or different colours for materials to separate</li> <li>Avoid parts and materials likely to damage machinery (shredder)</li> </ul>
Variability reduction	<ul style="list-style-type: none"> <li>Use standard subassemblies and parts</li> <li>Minimize number of fastener types</li> </ul>

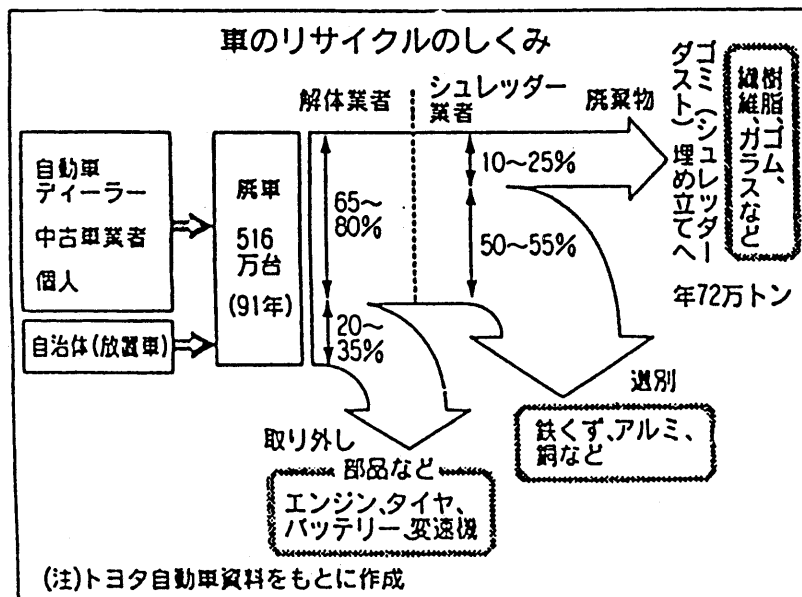


図 3.1 1 自動車部品の処理状況 (17)

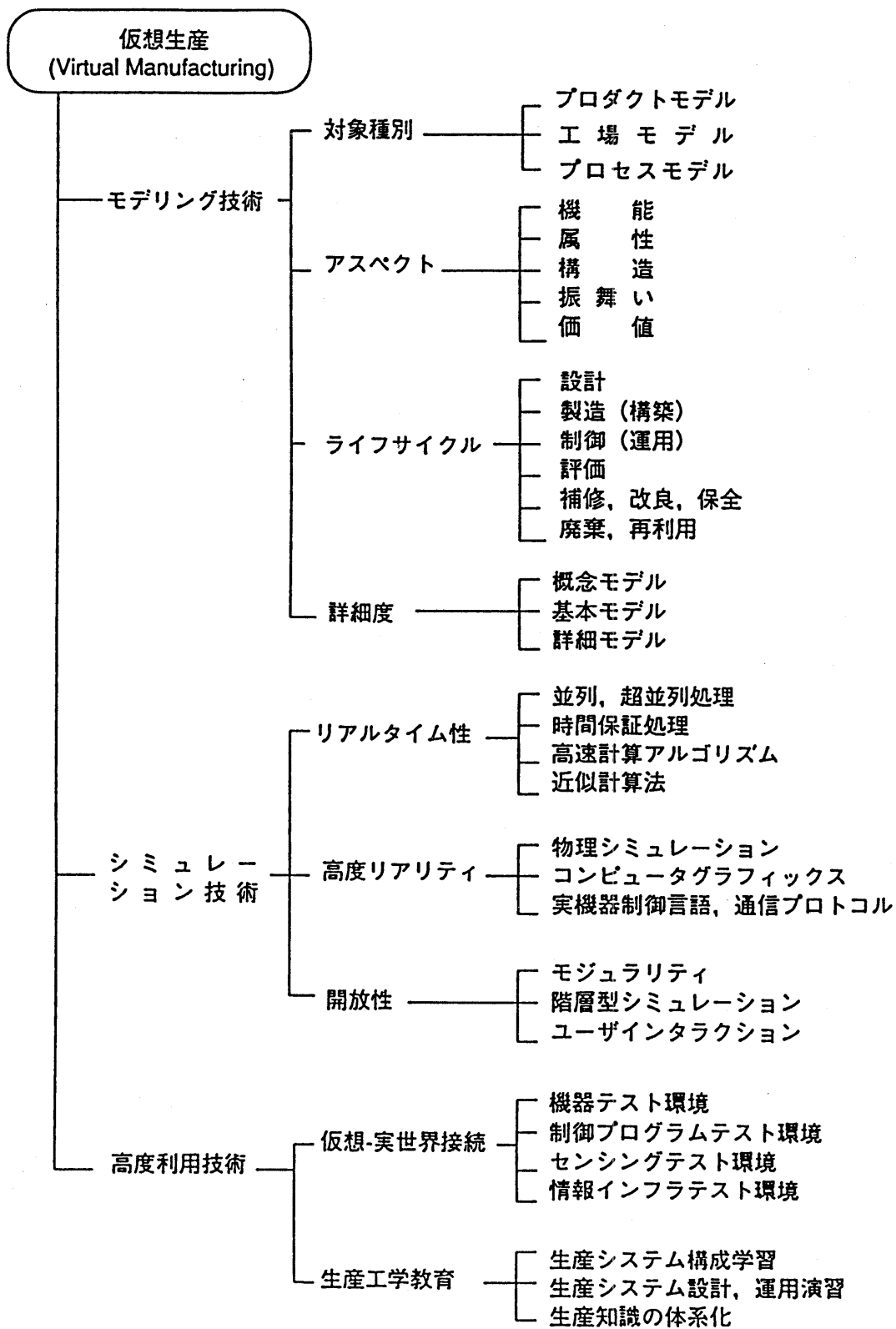


図 3.1 2 仮想生産の主要要素技術

#### 4 おわりに

本報告書では、21世紀初頭（2015年頃）における生産科学・技術の在り方やその課題について問題を抽出し、まとめたものである。現状では将来予測能力も含めて生産科学・技術の分野では我国は世界を先導するトップクラスにあると思われるが、21世紀初頭（2015年頃）においても、これを維持、さらに発展を図るためには、これまで以上に学問的な研究に力を注ぐことが欠かせない。そうでなければ、21世紀初頭にはトップの座を他の国に譲らざるを得ない。従って、この報告書で述べたような研究課題（地域調和形製品の設計技術、超精密・極限技術、人間性重視生産システムおよびマン・マシンインターフェイス、環境に調和する生産技術、仮想生産など）について今後は早急にかつ重点的に行う必要があると思われる。

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