SimTech delivers Research and Innovation carrying out innovative projects for its customers.
SimTech added values lies in the use of the technologies of scientific computing (optimization, software development, …) to analyze and solve the customer's problem.
In SimTech approach the solution technique is always chosen after analysis of the physics of the problem and of the industrial constraints. Optimization techniques from simple sensitivity analysis to simulated annealing or genetic algorithms can thus be used depending on the particular project.
Major companies such as ALSTOM, DASSAULT AVIATION, RENAULT, PSA, SNR, as well as advanced research laboratories such as FIAT RESEARCH CENTER or INRETS have relied on SimTech for the development of innovative solutions.

year	customer	skill	deliverable	optimization	stochastic	evolutionary	DOE	multi-disciplinary	multi-scale	Geometry opt.	Topology opt.	non-linear	algos dvptt.	ENKIDOU soft. dvpt
11-12	Varia	Thermal mechanical	Arc welding simulation methodology and software tool					✓				✓	✓	
11	Varia	Pedestrian safety	EnkiBonnet released	✓			✓	✓		✓		✓		✓
11	Varia	Composite Structures	Cost analysis and optimization for composite structures	✓										✓
10-11	Automotive OEM	Crash	Optimal design of elements under crash constraints	✓		✓		✓	✓	✓		✓		✓
10	Rail OEM	Structures	NVH optimization of electric cabinets	✓										
08-11	Rail OEM	Composite Structures	Optimal design of composite car body	✓							✓			✓
09-12	Automotive OEM	Welded assembly	Environment for the simulation of a full-scale, multi-station assembly line (final geometry, residual stresses)									✓		✓

				optim	stoch	evolu	DOE	multi	multi	Geo	Topo	non-	algos	ENK
08	Automotive OEM	Crash	Environment for the design of crushed beams				◈						◈	◈
07-08	Automotive OEM	Metal forming	Software tool for upfront prediction of metal forming springback.										◈	◈
95 -12	auto-aero – space OEMs, suppliers	Structures	Design and optimization of component (inner panels, suspension brackets, fuel tanks, casings, …) under constraints of stiffness, vibration, fatigue, acoustics, etc … About 50 components and units designed.	◈						◈	◈			
03-12	Automotive OEMs	Pedestrian safety	Upfront design of bonnet units (inner panel, hinges, restraining systems, …) for multiple objectives: stiffness, vibration, pedestrian safety (EU and Japan regulation). Eight bonnets designed so far.	◈			◈	◈		◈	◈	◈		◈
05-08	Roller bearing maker	knowledge based design	Environment for the upfront design of roller bearings for geometry and life-cycle specification. It integrates empirical design rules and mathematical optimization.	◈		◈								◈
05-12	Testing and research laboratory	Crash	Environment for the simulation and analysis of road barrier tests									◈		◈
05	Automotive OEM	Metal forming	Environment for the analysis of springback in sheet metal forming and forming tool correction.										◈	◈
01-02	Automotive OEM	Metal forming	Software environment for the design of hydroforming process, integrating geometric modelling, optimisation and EF process simulation	◈						◈			◈	◈

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				optim.	stochas	evoluti	DOE	multi-	multi-	Geome	Topolo	non-	algos	ENKI
02	Automotive OEM	Acoustics	Improvement of the performance of a car body acoustic inertance and transfer functions.	◈	◈	◈		◈						◈
02	Funded research project	Crash, metal forming	Study of the effect of the metal forming process on crash performance for car body units.						◈			◈		
00	Paper mill conglomerate	Logistics	Distribution of production charges over the European factories as a function of sales forecast, manufacturing capabilities and transportation constraints.	◈									◈	
00	Aerospace OEM	Finite elements	Integration of a new finite element in an existing code for the analysis of buckling phenomena in non linear shells.										◈	
98	Automotive OEM	Assembly	Design of the assembly system of a car body. 7% weight reduction, 25% improvement in fatigue resistance.	◈						◈	◈			
	Automotive OEM	Assembly	Design of shrink-fitted camshafts, from specification to actual sizing. Prototypes have been built and successfully tested	◈	◈					◈				

98	Automotive OEM	Assembly	Suppression of oil leaks from a gearbox under operational charges. Design of the clamping plate, positioning and sizing of the clamping	◈			◈			◈				
99	Automotive OEM and suppliers	Metal forming	SIMEX, one-step sheet metal forming simulation code. Presently SIMEX is used by dozens of companies around the world. SIMEX has been acquired by ESI Group in 2004.										◈	
				optim.	stochas	evoluti	DOE	multi-	multi-	Geome	Topolo	non-	algos	ENKI
				optim.	stochas	evoluti	DOE	multi-	multi-	Geome	Topolo	non-	algos	ENKI
93-04	Automotive OEM and suppliers	Metal forming	Die face feasibility evaluation and design.	◈						◈			◈	