The ART Zajac Engine approaches engine technology changes the way conventional engines operate. While others seek to correct the shortcomings of traditional internal combustion Diesel engines by adding "band-aid solutions" and/or extra components to fix increasingly difficult problems, the ART Zajac Engine advances the design with an advanced combustion system that eliminates those problems altogether.

Attempts to add "patch" solutions onto 125 year-old Diesel engine designs, often results in degraded fuel economy, increased cost, intensified noise production, added complexity, and decreased reliability without adequately tackling the problems of pollution and efficiency. The ART Zajac Engine Technology approach resolves these undesirable limitations.

Below is a snapshot that explains why Zajac engine technology is in a league of its own.

	ART Engine	HCCI Engine	DPF Component	DOC Component	EGR Component	SCR Component	LSAF Component
	Zajac Engine Technology	Homogenous Charge Compression Ignition	Diesel Particulate Filter	Diesel Oxydation Catalyst	Exhaust Gas Recirculation	Selective Catalytic Recirculation	Large Sufrace Area Filter
Description	Diesel engine with patented head	Controls temperature, pressure, and fuel injection on each compression to try to eliminate flame front and NOx	Filters soot from exhaust	Completes the "burning" of unburned hydrocarbons in exhaust	Uses oxygen deficient exhaust gas to reduce burn temperature and NOx formation	Ammonia injection system to eliminate NOx from exhaust	LSAF filters take longer to clog and because of their large size, can cause less back pressure
Fuel Efficient	✓	✗ Only effective if cylinder has no hot spots or particles	✗	✗	✗	✗	✗
Non-Polluting	✓	✗ Low NOx but very high unburned hydrocarbons and carbon monoxide emissions	✓	✓	✓	✓	✓
Cost Efficient	✓	✗ Low NOx but very high unburned hydrocarbons and carbon monoxide emissions	✗	✗	✗	✗	✗
Light-weight	✓	✗ Extremely heavy	✗	✗	✗	✗	✗
Quiet Running	✓	✗ Explosive firing rather than combustion makes the HCCI etremely loud	✗	✗	✗	✗	✗
Quick Starting	✓	✗	✗	✗	✗	✗	✗
Fuel Flexibility	✓	✗	✗	✗	✗	✗	✗