✓ BEST - AVERAGE X WORST

		Status Quo Technologies		TURNTIDE	Other Motor Technologies		
		Line-Start Induction Motor	Induction Motor with VFD	Turntide Smart Motor System™ (Switched Reluctance Motor)	Synchronous Reluctance Motors (SynRM)	Permanent Magnet-Assisted Syn-RM	Electronically Commutated Motors (ECM)
BASIC INFORMATION							
Summary	Brief description of motor technology option	Commonly found in legacy industrial equipment, AC induction motors have been an industry standard for decades	Many energy conservation measure (ECM) projects today involve adding a variable frequency drive (VFD) to incorporate speed modulation to induction motors in order to drive energy savings	**A connected, high-efficiency motor system based on a high-rotor pole switched reluctance architecture (a magnet-free technology with simple rotor geometry) which can be used to drive high ROI with immediate energy savings that gets better over time**	A high-efficiency motor system based on synchronous reluctance architecture (a magnet-free technology with simple rotor geometry)	A high-efficiency motor based on synchronous reluctance architecture with permanent magnets to further improve efficiency gains. Magnets are generally mounted internally (a more complex motor geometry)	Also known as brushless DC motors, ECMs leverage permanent magnets (generally mounted on the rotor surface) to create magnet fields to generate higher efficiency
Torque Production Principle	The method in which torque is generated for motor operation	**Electromagnetic**	**Electromagnetic**	**Reluctance**	**Reluctance**	**Electromagnetic + Reluctance**	**Electromagnetic**
OVERALL MOTOR PERFORMANCE							
Peak Efficiency	Ability to reach high efficiencies, which reduces energy use	X	-	✓	✓	✓	✓
Efficiency Across Speed / Torque Range	Ability to maintain high efficiency across both lower and high speeds and torques	X	-	✓	✓	✓	✓
Power Density	The amount of power generated per unit volume of the motor	X	-	✓	-	✓	✓
Torque Density	The amount of torque generated per unit volume of the motor	X	X	-	✓	✓	✓
High Speed Capability	Capability to support safe and reliable operation at high speeds	X	✓	✓	-	✓	✓
Motor Power Factor	The ability for the motor to generate high motor power ratings, or high ratios betwen True Power (kW) and Apparent Power (kVA), which influence electrical performance of system	-	-	-	X	✓	✓
Temperature During Operation	Temperature during operation - high temperatures lead to thermal issues which can impact performance	X	X	✓	-	✓	✓
MOTOR RELIABILITY							
Rotor Design	Simplicity in rotor design for higher reliability, longevity, and ease of manufacturing	-	-	✓	✓	X	X
Reliability and Maintenance	Mechanical reliability and ability to maintain low cost of maintenance through motor's product lifespan	-	X	✓	✓	X	X
Complexity of Motor Control	Complexity of modulating motor speed	✓	-	-	-	-	-
EASE OF INSTALLATION							
Mounting Standard Support	Ability to support standard motor frame sizes (i.e., NEMA and IEC)	✓	✓	✓	✓	✓	-
SUPPLY CHAIN AND MANUFACTURING							
Raw Material Cost	Cost of raw materials to manufacture the motor	✓	✓	✓	✓	X	X
Supply Chain Stability	Stability of the supply chain for raw materials and other components needed to manufacture the motor	✓	✓	✓	✓	-	-
Manufacturing Cost	Cost to manufacture motor	✓	✓	✓	✓	X	-