









	£ 1,599	£ 1,799	£ 1,799	£ 2,499
PRODUCT INFORMATION				
FRAME SIZES	-	M (52cm) - L (56cm)	M (19cm) - L (20,5cm)	S (42cm) - M (46cm) - L (50cm)
WEIGHT	Approx. 24 Kg	Approx. 20kg	Approx. 25kg	Approx. 26kg
MAXIMUM BIKE & RIDER WEIGHT	150kg	150kg	120kg	120kg
	Powder Painting Scratch Resistant	Powder painting scratch resistant with	<u> </u>	Powder Painting Scratch Resistant
PAINTING	With Matte Varnish	Glossy Varnish	White Starwith alocal finish I I am	with Matte or Glossy Varnish
COLOUR(s)	Moon Grey with matte finish Desert Sand with matte finish	Metallic Blue	White Star with glossy finish Happy Blue with matte finish Black Suit with matte finish	Black Fog with Matte Finish Moon Grey Gloss with Glossy finish
FRAME				
FRAME	Aluminium High Step	Aluminium High Step	Aluminium High Step	MTB Hardtail Aluminium
SUSPENSION	-	-	-	Sr Suntour Raidon 34 Air Travel 130mm Boost 110mm 27,5''
FORK	Rigid Alloy 28"	Rigid Alloy 28"	Rigid Alloy 28"	-
HEADSET	SHIS 1-1/8"	Semi integrated 1-1/8"	ACROS 1.5" to 1-1/8" Tapered SHIS	FSA 1.5" to 1-1/8" Tapered SHIS
E-BIKE SYSTEM		<u> </u>		
L DIKE STSTEM			SHIMANO Steps E5000 Horizontal	
DRIVE UNIT	BAFANG H400B Rear Wheel 45Nm	BAFANG H400B Rear Wheel 45Nm	40Nm	BROSE DRIVE S ALU 90Nm
BATTERY	360Wh 36V - Integrated on Downtube - Non Removable	36V 360Wh - Integrated on Downtube - Non Removable	418Wh 36V - Semi-integrated on Downtube - Removable	Snake Battery - 504Wh 36V - Integrated on Downtube - Removable
RANGE	40km to 100km	40km to 100km	40km to 100km	40km to 100km
BATTERY LOCK KEY	-	-	Yes	Yes
CHARGER	2A - 5 hours total charge time	2A - 5 hours total charge time	2A - 6 hours total charge time	2A - 7 hours total charge time
DISPLAY	BAFANG DP.C11	BAFANG DP.C11	SHIMANO E5000	BROSE Allround
COCKPIT				
HANDLEBAR	AL 660mm / 31.8mm (Straight)	Z00M Gravel 400mm / 31.8mm / Flare 25°	AL 660mm / 31.8mm (Straight)	FSA V-Drive 740mm / 31.8mm (Straight)
STEM	AL 100mm - 31.8mm - 7°	AL 100mm - 31.8mm - 7°	AL 90mm - 31.8mm - adjustable 0-	FSA V-Drive 60mm/ 31.8mm / ±6°
GRIPS	HERRMANS DD36 Ergonomic	SELLE ITALIA SG Tape	HERRMANS DD36 Ergonomic	ERGON GA30
WHEELSET	TERRITARY DESCRIPTION	SELLE HALIA 30 Tape	TERRITARIS DESCRIPTION OF THE PROPERTY OF THE	EROON OASO
WHEELSEI				
TYRES	CONTINENTAL Double Fighter III 29"x2,0"	VITTORIA Terreno Dry 29"x1,75"	CONTINENTAL Double Fighter 29"x2,0"	CONTINENTAL Mountain King 27,5"x2,6"
WHEELSIZE	29''	29"	29"	27,5"
RIMS	Alloy Double Wall 25mm	Alloy Double Wall 25mm	Alloy Double Wall 25mm	Alloy Double Wall 25mm
SPOKES	Stainless Steel	Stainless Steel	Stainless Steel Black	Black Stainless Steel
FRONT HUB	SHIMANO HB-TX506 9x100mm QR	Alloy 9x135mm QR	SHIMANO HB-MT400 100 Thru-axle 15mm	SHIMANO HB-MT400-B Boost 110 Thru-axle 15mm
REAR HUB	BAFANG H400B 135mm	BAFANG H400B 135mm	SHIMANO FH-TX505 135mm	SHIMANO HB-MT400-B Boost 148 Thru-axle 12mm
DRIVETRAIN & BRAKES				
BRAKES	ALHONGA Hydraulic HJ-HT474	TEKTRO Cable Activated Hydraulic HD-C705	SHIMANO Hydraulic MT200	SHIMANO Hydraulic MT200
BRAKE ROTOR - Front	ALHONGA HJ-DXR1806 180MM	SHIMANO SM-RT26 180mm	SHIMANO SM-RT10 180mm	SHIMANO SM-RT10 180mm
BRAKE ROTOR - Rear				
	ALHONGA HJ-DXR1806 180MM	SHIMANO SM-RT26 180mm	SHIMANO SM-RT10 180mm	SHIMANO SM-RT10 180mm
REAR DERRAILEUR	ALHONGA HJ-DXR1806 180MM SHIMANO Altus 9S	SHIMANO SM-RT26 180mm MICROSHIFT AdventX 10S	SHIMANO SM-RT10 180mm SHIMANO ALTUS 9S	SHIMANO SM-RT10 180mm SHIMANO Deore 10S
CASSETTE	SHIMANO Altus 9S	MICROSHIFT AdventX 10S	SHIMANO ALTUS 9S	SHIMANO Deore 10S
CASSETTE SHIFTERS CHAINRING	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T	SHIMANO ALTUS 9S SHIMANO Altus 9S 11-36T	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T
CASSETTE SHIFTERS CHAINRING CRANK	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170	SHIMANO ALTUS 9S SHIMANO Altus 9S 11-36T SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5
CASSETTE SHIFTERS CHAINRING CRANK CHAIN	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-H653	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series	SHIMANO ALTUS 9S SHIMANO Altus 9S 11-36T SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-H653	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAIN	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170	SHIMANO ALTUS 9S SHIMANO Altus 9S 11-36T SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAIN CHAIN	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-H653	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series	SHIMANO ALTUS 9S SHIMANO Altus 9S 11-36T SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-H653	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAIN CHAINGUARD SAFETY & ACESSORIES	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg)	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series	SHIMANO ALTUS 9S SHIMANO Altus 9S 11-36T SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-H653	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA	SHIMANO ALTUS 9S SHIMANO AITUS 9S SHIMANO AITUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAING SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA	SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT KICKSTAND	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector ATRANVELO Dux	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA	SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector ATRANVELO Dux	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT KICKSTAND MUDGUARD	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector ATRANVELO Dux SKS	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA	SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector ATRANVELO Dux SKS	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT KICKSTAND MUDGUARD BELL	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector ATRANVELO Dux SKS	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA	SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector ATRANVELO Dux	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA Yes
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT KICKSTAND MUDGUARD BELL BOTTLE CAGE	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector ATRANVELO Dux SKS - Not included. Sold separately.	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA Not included. Sold separately.	SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector ATRANVELO Dux SKS Yes Not suplied. Frame prepared for standard	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA Yes Not included. Sold separately.
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT KICKSTAND MUDGUARD BELL BOTTLE CAGE	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector ATRANVELO Dux SKS - Not included. Sold separately. SELLE ROYAL Essenza Moderate Gel	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA Not included. Sold separately. SELLE ITALIA Model X Superflow	SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector ATRANVELO Dux SKS Yes Not suplied. Frame prepared for standard SELLE ROYAL Essenza Moderate Gel	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA Yes Not included. Sold separately. SELLE ROYAL Shadow FSA Gossamer 350mm 31.6mm
CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT KICKSTAND MUDGUARD BELL BOTTLE CAGE SADDLE SEAT POST	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector ATRANVELO Dux SKS - Not included. Sold separately. SELLE ROYAL Essenza Moderate Gel AL Black 300mm 31,6mm/15mm	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA Not included. Sold separately. SELLE ITALIA Model X Superflow AL Black 300mm 31,6mm /15mm	SHIMANO ALTUS 9S SHIMANO AITUS 9S SHIMANO AITUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector ATRANVELO Dux SKS Yes Not suplied. Frame prepared for standard SELLE ROYAL Essenza Moderate Gel AL Black 350mm 30,9mm/15mm	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA Yes Not included. Sold separately. SELLE ROYAL Shadow FSA Gossamer 350mm 31.6mm /20mm
REAR DERRAILEUR CASSETTE SHIFTERS CHAINRING CRANK CHAIN CHAINGUARD SAFETY & ACESSORIES RACK FRONT LIGHT REAR LIGHT KICKSTAND MUDGUARD BELL BOTTLE CAGE SADDLE SEAT POST SEAT CLAMP PEDALS	SHIMANO Altus 9S SHIMANO Altus 9S 11-36T SHIMANO Altus 9S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 SHIMANO CN-HG53 Yes - MIRANDA ATRANVELO City AVS (max.: 25Kg) AXA Ecoline 15 with reflector AXA Slim with reflector ATRANVELO Dux SKS - Not included. Sold separately. SELLE ROYAL Essenza Moderate Gel	MICROSHIFT AdventX 10S MICROSHIFT AdventX 10S 11-48T MICROSHIFT AdventX 10S MIRANDA ChainFlow BCD104 38T MIRANDA JIS 170 KMC e10 Turbo e-bike series Yes - MIRANDA Not included. Sold separately. SELLE ITALIA Model X Superflow	SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO ALTUS 9S SHIMANO SM-CRE50 38T SHIMANO FC-E5010 - 175 SHIMANO CN-HG53 Yes - SHIMANO ATRANVELO Tour AVS (max.: 25Kg) AXA Blueline 30 with reflector PICCADILY with reflector ATRANVELO Dux SKS Yes Not suplied. Frame prepared for standard SELLE ROYAL Essenza Moderate Gel	SHIMANO Deore 10S SHIMANO Deore 10S 11-42T SHIMANO Deore 10S SAMOX BCD 104 36T SAMOX Shape 175/5 SHIMANO CN-E6090 Yes - FSA Yes Not included. Sold separately. SELLE ROYAL Shadow FSA Gossamer 350mm 31.6mm

^{*} We reserve the right to modify product information that appears on this website without prior notice, including equipment, specifications, models, colors and materials.