



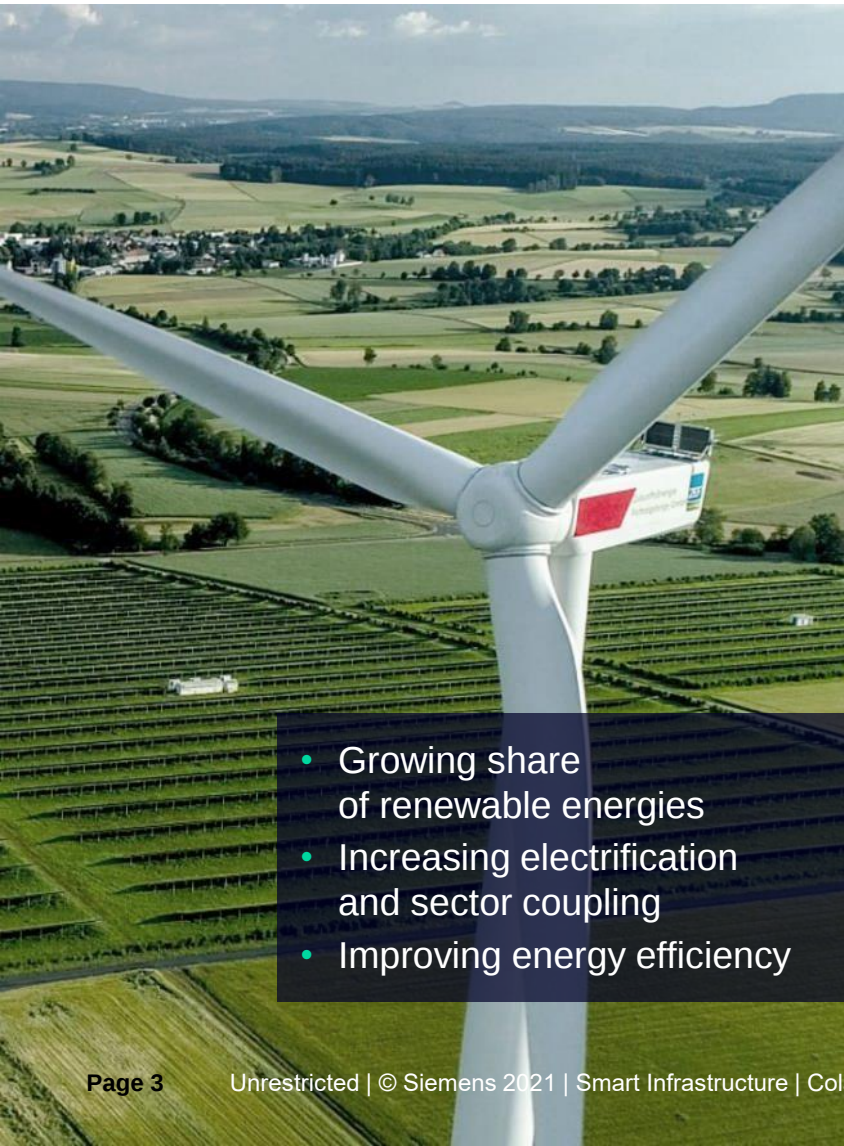
**170+ years
of Siemens**



Energy & Performance Services

The world is changing

Decarbonization. Decentralization. Digitalization.



- Growing share of renewable energies
- Increasing electrification and sector coupling
- Improving energy efficiency



- Flexibilization of the energy market
- From consumer to prosumer
- New market players



- Connected systems and automated processes
- Smart data as a basis for decision-making
- New business models

Energy Efficiency Potential

By Sectors

Public Sector Saving
 121 - 537 million USD can be achieved from energy cost saving

Public Sector Investment
 in need of 0.85 to 5.4 billion USD

Industry and Building Sector Saving
 4.5 to 7.7 billion USD can be achieved from energy cost saving

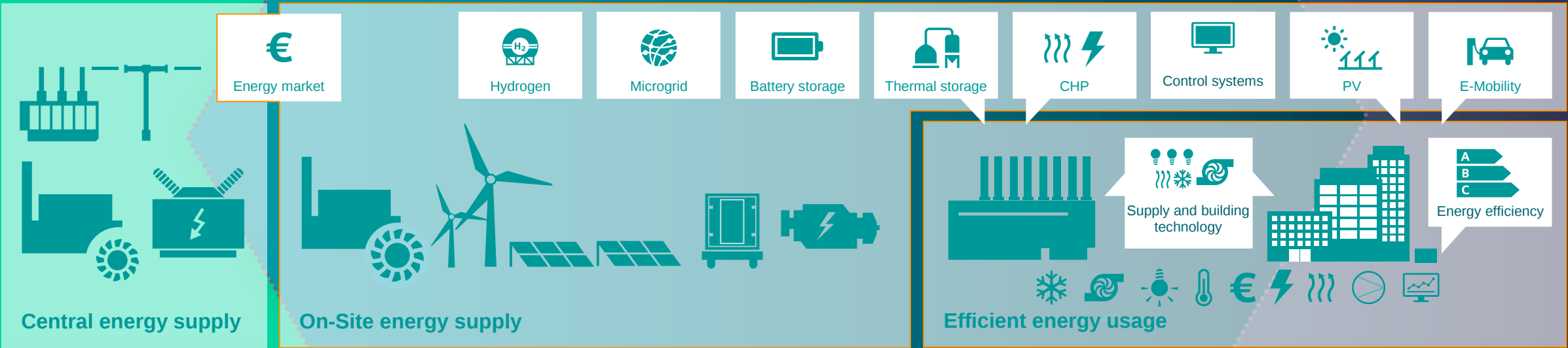
Source: Ministry of Energy and Natural Resources

Market Assessment in Public Sector		Energy Savings (%)		Annual Energy Savings (GWh)		Annual Savings (M USD)
Theoretical Technical Total Potential Energy Savings		30% -40%		7,532 -10,043		806- 1,074
Economically Feasible Total Potential Energy Savings		50% of the theoretical technical		3,766 – 5,022		403 - 537
Total Potential Energy Savings Feasible for EPC Market		15% of the theoretical technical		1,130 – 1,506		121 -161
	Energy Saving Ratio Lower Technical	Energy Saving Ratio Upper Technical	Energy Saving Potential (1000 toe) Lower Technical	Energy Saving Potential (1000 toe) Upper Technical	Cost Savings (\$ 1.000) Lower Technical	Cost Savings (\$ 1.000) Upper Technical
			Building			
Health & Social	12%	26%	26	56	27.242	59.024
Hotels & Similar	12%	26%	89	193	93.707	203.032
Offices & Similar	8%	20%	160	399	167.740	419.349
Education	8%	20%	24	59	24.804	62.009
Wholesale and Similar	8%	20%	111	278	117.039	292.598
Total	10%	22%	410	986	430.532	1.036.013
Industry						
Iron & Steel	28%	44%	2.232	3.508	1.572.180	2.470.707
Glass & Cement	26%	40%	2.451	3.771	1.257.031	1.934.092
Pulp and Paper	21%	32%	141	215	110.721	168.726
Chemical	18%	32%	434	771	202.733	360.457
Plastic	18%	30%	134	223	135.886	226.480
Textile	14%	26%	469	871	373.114	692.955
Food & Beverage	13%	27%	299	621	191.536	397.833
Timber & Woodwork	11%	24%	47	102	32.518	70.952
Machine Building	10%	22%	117	258	140.487	309.073
Other	10%	20%	19	37	15.543	31.088
Total	17%	30%	6.343	10.378	4.031.748	6.662.362

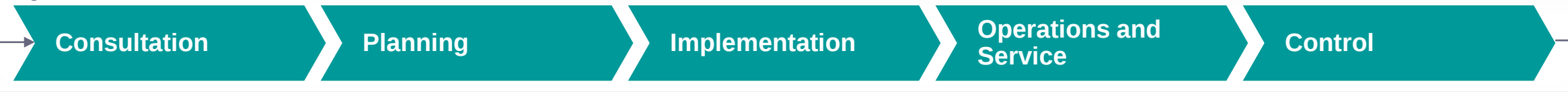
Energy Performance Services as a holistic solution at the Grid Edge

Supply side

Trends: Decarbonization and Decentralization



Digitalization



Enerji Performans Sözleşmesi Organik yapısı

SIEMENS
Ingenuity for life



Enerji Verimliliği Projeleri

Strateji ve Planlama

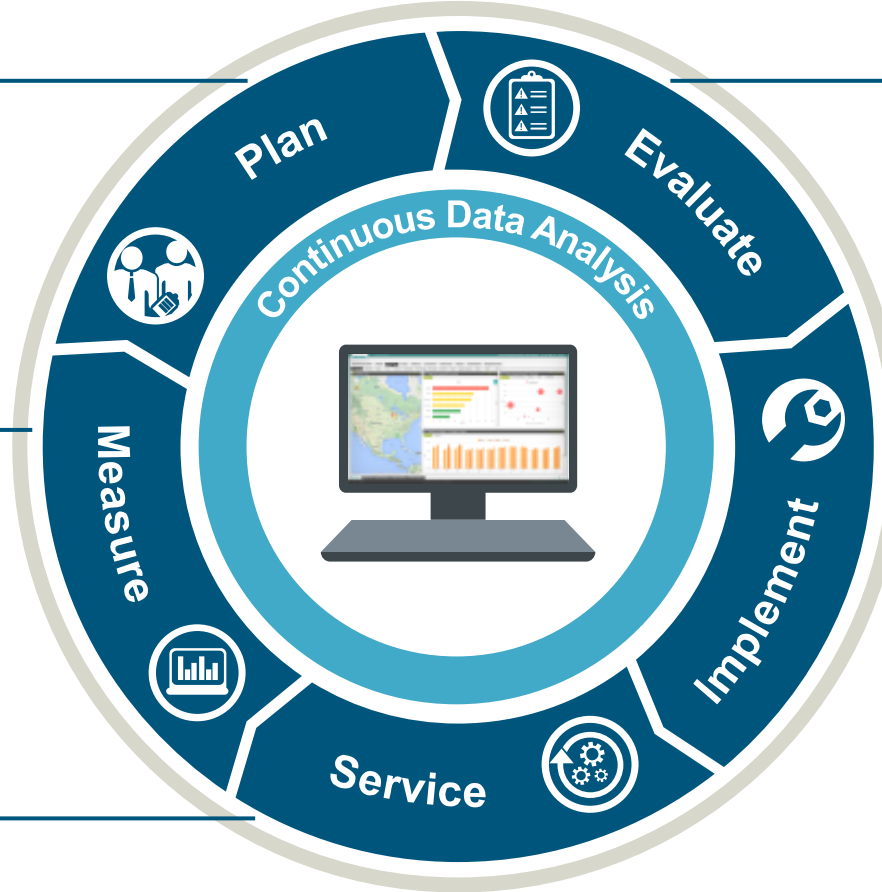
- Enerji verimliliği direktifi stratejisi
- Sürdürülebilir enerji stratejisi
- Karbon ayak izi azaltımı stratejisi

Ölçüm ve Raporlama

- Veri izleme, kaydetme ve raporlama
- Ölçüm ve Doğrulama / Performans Garantisi
- Bütçeleme & Tahmin

Servis ve Optimizasyon

- Bina performans optimizasyonu
- Şebeke enerji tarife incelenmesi
- Risk yönetimi



Ölçüm ve Değerlendirme

- Ön Etüt & Enerji etüdü
- Detaylı etüt
- Enerji tedarik analizi

Proje Uygulaması

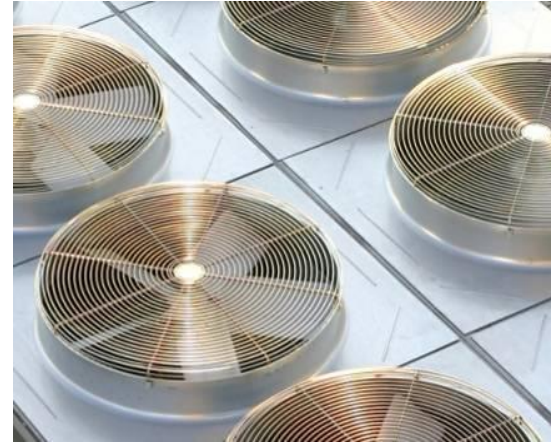
- Verimlilik Artırıcı Projeler
 - Bina otomasyonu
 - Mekanik
 - Aydınlatma, elektrik
 - Basınçlı hava
 - Isı geri kazanım
 - Sürücü, motor
 - Uygulama
 - Finansal çözümler (Enerji performans sözleşmeleri)
- ISO 50001 danışmanlığı

Enerji Verimliliği Projeleri Modernizasyon

SIEMENS
Ingenuity for life

Kapsamlı enerji etüdü sonrası kapsamlı proje portföyü

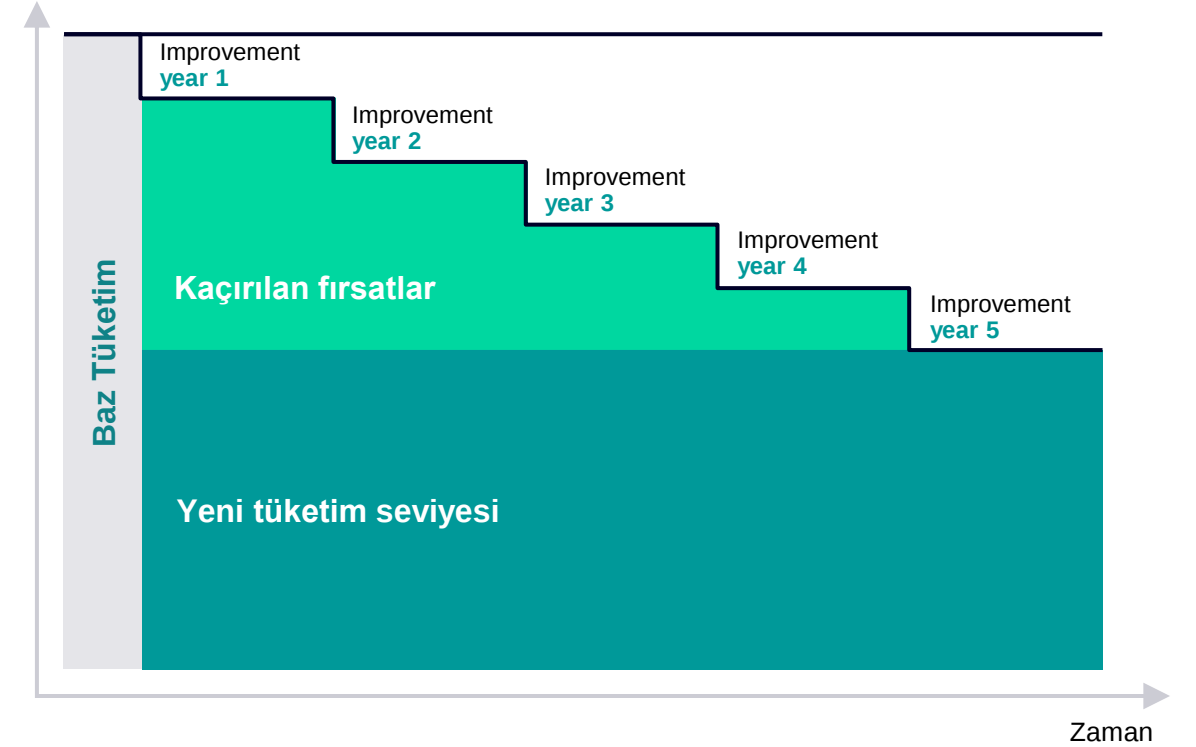
- Bina otomasyonu, enerji izleme sistemi
- Aydınlatma değişimi, otomasyonu
- Basıncılı hava, kompresör (hava kaçaqları & onarım)
- Şebeke enerji bağlantı incelenmesi
- Heating, ventilation & air conditioning (HVAC)
- Soğutma sistemleri değişimi, optimizasyonu
- Kazan değişimi, sistem optimizasyonu
- Pompa, fan, motor, sürücü
- Kojenerasyon, trijenerasyon (yerinde elektrik üretimi)
- Yenilenebilir enerji sistemleri
- Isı değiştirici uygulamaları
- Isı pompası uygulamaları
- ...



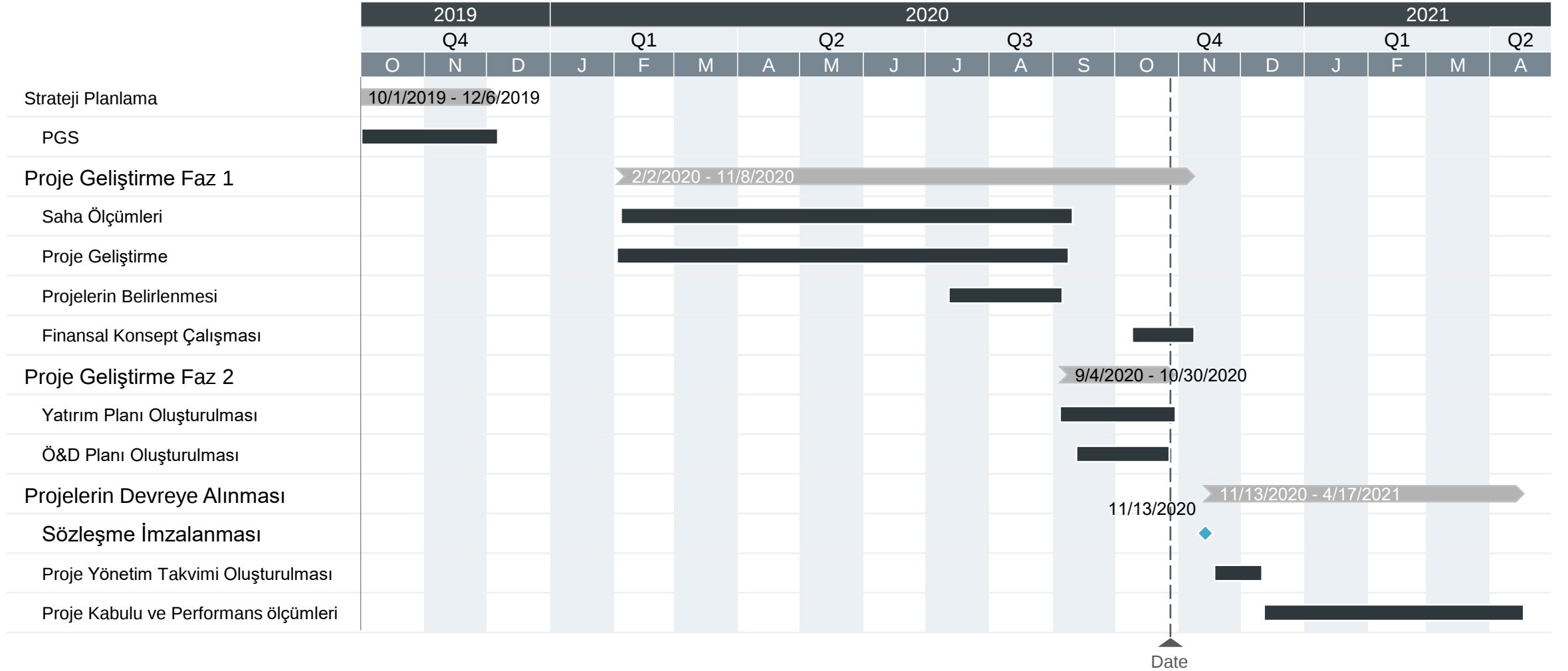
Paket çözümlerin avantajları

Bütüncül çözümlerle beraber maksimum katma değer!
Zaman = Nakit

Energy tüketimi /
Enerji Maliyetleri

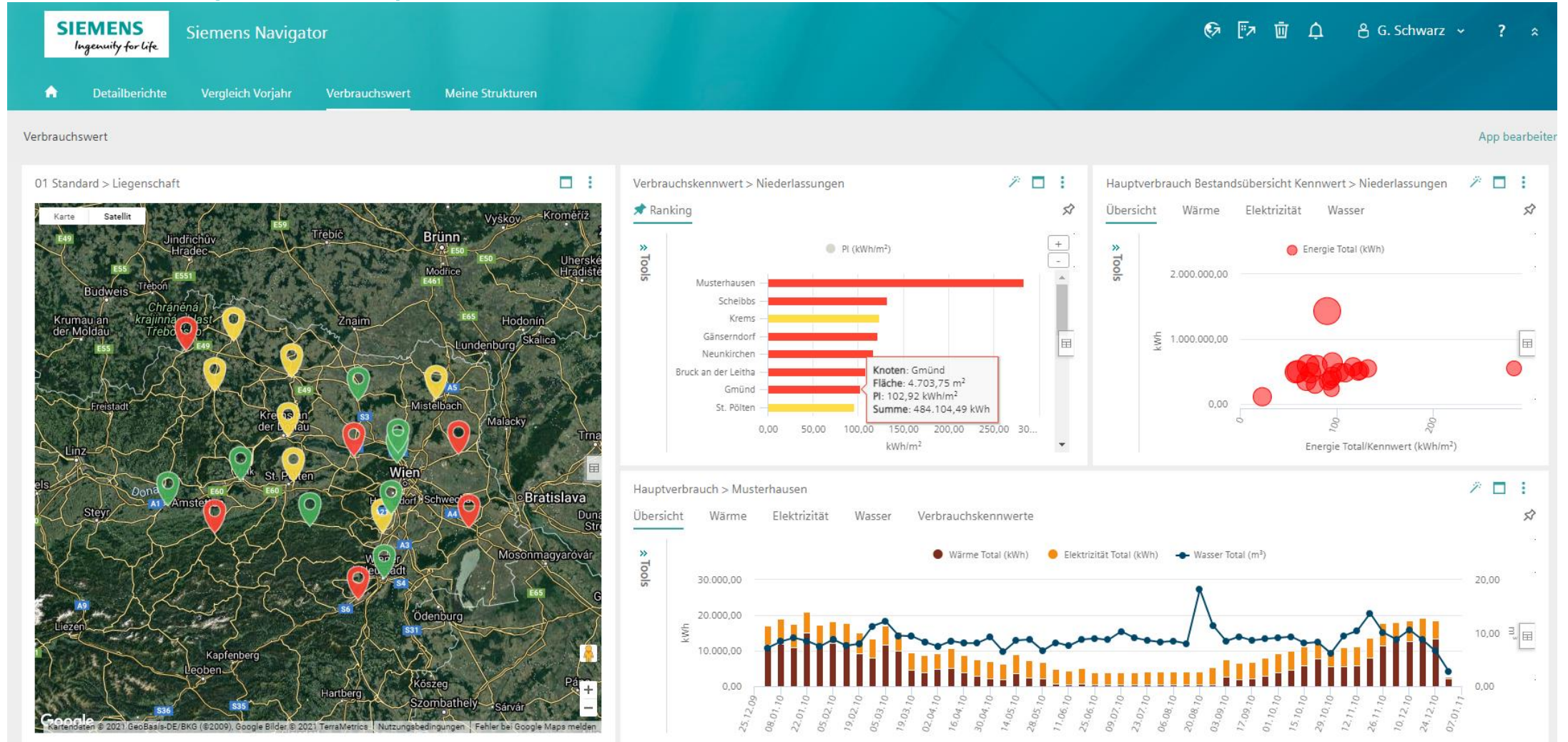


Proje Geliştirme Takvimi



Enerji İzleme ve Raporlama

Bulut bazlı enerji Yönetim platformu



Teşekkür Ederim!

Rıfki Çolak
Smart Infrastructure

Certified Energy Manager®

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