

# **BUILDING JOBS: IMPACT OF REAL ESTATE PROJECTS IN YEMEN**

Silatech Discussion Paper Series  
January 2011

# FOREWORD

At Silatech, we believe in using knowledge to stimulate enterprise and employment opportunities for young people to support their advancement. Since our launch in 2008 by Her Highness Sheikha Mozah bint Nasser Al Missned of Qatar, Silatech's Board Chair, action-oriented analytics has driven Silatech's work.

In 2008, we launched the Silatech Index in partnership with Gallup, Inc. which captured the voice of young Arabs through face-to-face surveys of thousands of young people, and led to rich discussions with policy makers across the region. In 2009, we launched a joint effort with the Brookings Institution, which led to a seminal study of social enterprise in the Arab world and significant follow-on initiatives.

As 2010 comes to a close, I am delighted to introduce the Silatech Discussion Paper Series created under the leadership of Dr. Pawan G. Patil, Silatech's Chief Economist & Chief Economic Development Officer. These papers, written with partners, highlight a viewpoint or opportunity that we believe can achieve sustainable impact at scale. With a practitioner's perspective and informed by our work, their purpose is to inform, provoke and enable action - supported by knowledge.

We are grateful to our partner, EMSI, for their expertise in creating the first several reports of the series. This second paper looks at Yemen's construction industry, and evaluates how effective training can create long-lasting jobs for Yemeni youth, as well as economic value for the country.

I hope you enjoy reading this report, and welcome your feedback.



**RICK LITTLE**  
Chief Executive Officer  
Silatech

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Yemen has a rich heritage in construction, and its traditional buildings are known the world over for their craftsmanship. As the industry modernises in a challenging environment, it is useful to understand how growth can stay inclusive, and opportunities are created for employment and young people's greater participation in the national economy.

This report is the culmination of much effort by EMSI and Silatech to assess and assemble relevant data, and transform it into information. Throughout, Silatech's insight into skill development in Yemen have been invaluable.

We hope this research goes beyond 'data' and provides actionable information that will support policy and bring hope to Yemen's youth. It is nice to contribute towards thinking about solutions, not just problems, and we look forward to helping efforts that continue in doing so.



**ANDREW CRAPUCHETTES**  
Chief Executive Officer  
EMSI (Economic Modeling Specialists Inc.)

# INTRODUCTION

For the next generation of Middle Eastern workers, substantial barriers stand in the way of finding employment and opportunities to build fulfilling careers based on meaningful work. Among the many issues that exist, three particular stumbling blocks exist for workers, their employers and the country:

- a) A shortage of skills, and skilled workers, which constrains organisation growth and economic development;
- b) Lack of a structured entry process into the formal sector of the economy, which is crucial for career success but often difficult or impossible for workers who start in the informal sector as they wish to make the necessary transition; and
- c) Inadequate connection between supply and demand - private companies play an increasingly important role in shaping the market for in-demand skills, but have almost no voice in what skills are trained for because of current education and employment practices.<sup>1</sup>

Workforce skills need to be developed and deficiencies overcome to create flourishing economies. Private companies need skilled workers to expand, but they can't afford to gamble with locally sourced, and potentially low-skilled, workers because of often restrictive and stringent practices around hiring and firing that limit their freedom to recover from hiring mistakes. These companies need assurance that the workers they hire have the needed skills to succeed, so they don't take any unnecessary risks while hiring in domestic labour markets.

Training that is tailored specifically to the needs of industries has the potential to address these issues.

- a) The skills constraint to growth can begin to be removed as training and the supply of skills increasingly conforms to specific company needs;
- b) Informal sector or first-time workers can be educated by an intermediary training provider, and thus have the potential to flow more easily into formal sector employment; and
- c) Workers could receive signals from the private sector about in-demand skills in a situation where the training provider is able to work directly with the companies actually hiring them.

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<sup>1</sup> "Missed by the Boom, Hurt by the Bust" (Middle East Youth Initiative). May 2009.

The authors would like to thank Dr Mohammed Al Maitami, Jo Aggarwal, and Justin Sykes at Silatech for their review and excellent feedback; and also Mr Saad Sabrah, the Executive Chairman of The General Holding Corporation for Real Estate Development & Investments (Shibam Holding) in Yemen, for his invaluable help and guidance without which this paper would not have been possible.



Silatech has sponsored a pilot training venture that follows this model in Yemen, which is engaged in providing construction skills training for Yemeni workers who are hired by private sector clients and projects. One such example includes a well known project in Sana'a: the Al-Rayyan Hills project. The training venture has the potential to provide lasting benefits to Yemen. It is now in a position to create a nucleus of activity and a proof point that, when scaled, could remove significant gaps between the Yemeni construction workforce and the private construction industry. This venture has specific benefits to young people, who are specifically trained with the objective of ensuring that the skills gained remain in the labour force over the long term, and thus benefit their families, communities and the national economy of Yemen.

This report quantifies the economic impact that this sort of training could have across the Yemeni economy, and uses the Al-Rayyan Hills construction project as an example. This argument holds for other countries, and this approach is one that could be, and needs to, be replicated in other Middle Eastern countries as well.

# BACKGROUND

Like many countries in the MENA region, Yemen's economic success has unfortunately been hindered by the structure and opportunities available for the development of its workforce. Historically low skill levels of domestic workers, complicated funding and management mechanisms to oversee the national vocational training infrastructure, and inadequate hard and soft training infrastructure combined with cultural factors make Yemen a challenging environment for any project or investment that depends on a skilled workforce for success.

## CONSTRUCTION IN YEMEN

Construction in Yemen is clearly no exception to these difficulties. Projects often find themselves in a situation where they have overrun costs, suffered delays, and are being required to manage a varying quality of construction. One of the primary roots of these issues is a lack of a scaled up and formalised method of identifying skilled employees within the Yemeni labour force, amongst a large pool of predominantly unskilled workers. Yemeni construction workers often need training in both modern methods of construction and construction safety. Combined with the challenges in procurement practices and the high costs of sourcing machinery and implementing modern forms of construction, it is fair to say that any construction initiative would be hard pressed to implement a project to meet quality, time and cost targets.

Because of the state of the labour market and difficulties in meeting demand for skilled workers, either projects will have to go ahead anyway and take the risk of hiring locally along with any associated impacts on the project in terms of budget and time overruns, or they will choose to bring in expatriate workers, dealing with any extra costs, visas, housing, and resettlement. Both of these situations raise problems not only for the project manager or contractor, but also more broadly, for the country.

In the first case, the country risks creating a less than desirable reputation for investment in construction and ease of implementing projects. In the second case, the Yemeni economy loses out on long term benefits from the employment created by the project as most of these flow overseas. The country's high rate of unemployment at 35% means a there is a surplus of workers available, but it is hard to know which of these workers, and how many, possess the in-demand skills necessary to satisfy private industry needs.

“Large-scale projects, such as the **Al-Rayyan Hills development in Sana'a**, pose an opportunity to build a foundation of skills in the country. An investment in training local workers, who retain their skills and experience and stay in the country and region, would yield returns far beyond the project itself.”

## WHAT CONSTRUCTION LEAVES BEHIND

Large-scale projects, such as the Al-Rayyan Hills development in Sana'a, pose an opportunity to address this situation and build a foundation of skills in the country. An investment in training local workers, who retain their skills and experience and stay in the country and region, would yield returns far beyond the project itself. As seen elsewhere, 2 to 6 weeks of targeted training go a long way toward equipping workers with the necessary standards and other specialized skills to succeed as construction workers. We can reasonably assume that with this training newly skilled national workers could substitute for skilled foreign workers.

However, private companies get justifiably concerned about the investment in training: if the training does not establish the skills as promised, they have the same unskilled labour as before, with the additional expense of training. Thus, the risk may very well outweigh the companies' desire to invest in it. But in order for Yemen to break out of the vicious cycle caused by untrained labour, the training is a necessary risk to take, and investment in such a measure—whether by the company, the country, or other sources—is definitely worthwhile.

The question this paper seeks to address is what the construction activity leaves behind once the building work is done, and how that benefits the economy. We have considered two scenarios: 1) the construction is done with imported workers; or 2) do the job with trained national workers.

For the first scenario, what is left behind are the buildings plus direct jobs arising from the staffing of these facilities, and the indirect impact in terms of jobs and earnings arising therein.

Under the second scenario, Yemen will have all of the above – the facility itself and operational staff; plus a substantial pool of national workers skilled in construction, who are able to move on to other construction jobs because of the training they received and the job experience they gained. The model will measure the full impacts under both scenarios with a strong case made for the economic advantages of the second scenario.

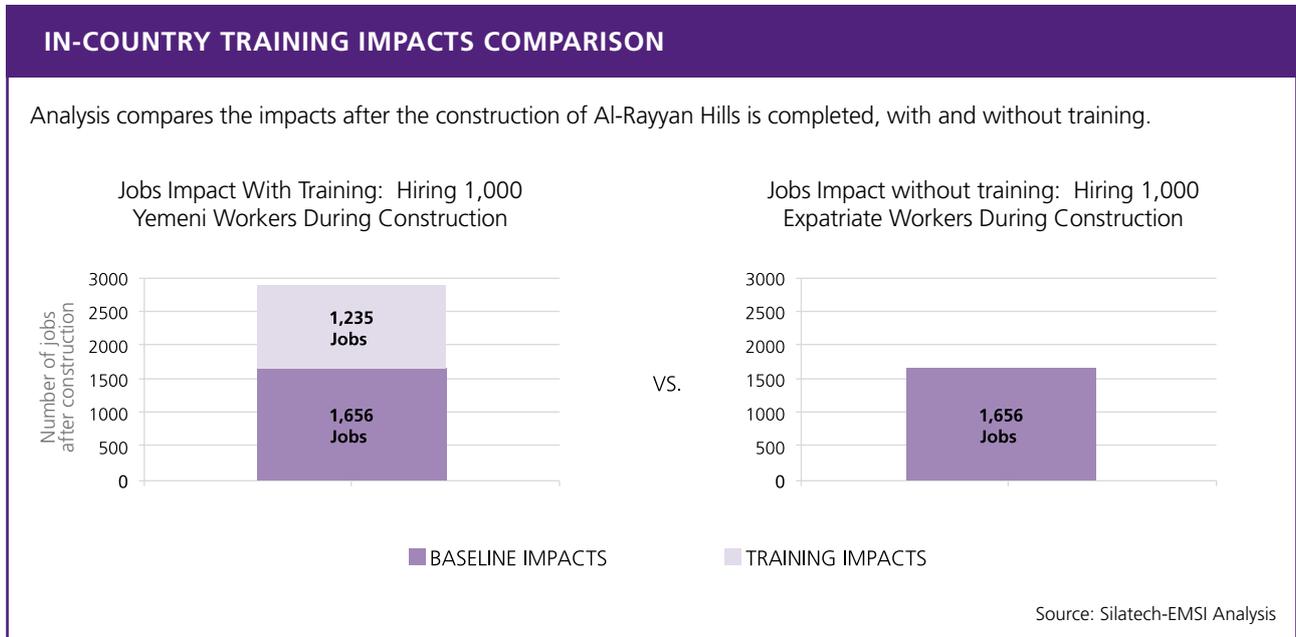
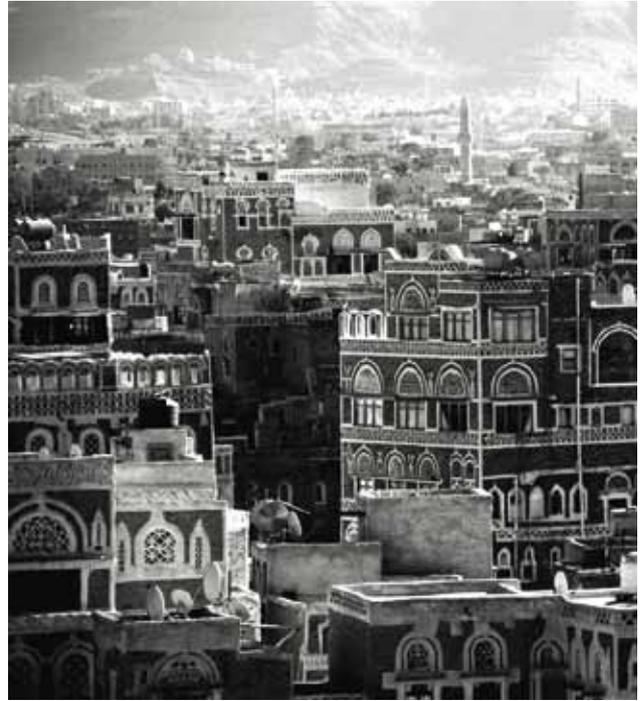
### EXAMPLE: AL RAYYAN HILLS PROJECT

The example we have considered for this analysis is Al Rayyan Hills, a mixed-use development, which is proposed to be located on a 440,000 square metre site in the southern part of Sana'a. On completion, the project will include a 200-room, five-star hotel connected to a large conference and banqueting facility. The project will also include 297 luxury residential villas and apartments in addition to retail space and office buildings.

The development will be done in 4-5 phases, the first phase consisting of 172 villas to be finished in approximately 18 months from July 2009. Initial site preparation work has been ongoing from July 2009, and construction has commenced from October 2009 onwards.

# FRAMEWORK

This report will quantify, looking to the Al-Rayyan Hills project as an example, the possible returns for industry-specific training. Because we wanted to estimate the impact of training local workers, we set up the analysis to compare two alternate scenarios: one in which 1,000 expatriate workers were employed to build a development such as Al-Rayyan Hills, and the other in which 1,000 Yemeni workers were trained and employed to build the same development. There are two sets of post-construction impacts considered: 1) The impacts associated with operations of the hotel, retail, and private residences created (an estimated 1,200 workers)—termed ‘baseline impacts’ in this report, and 2) the impacts associated with the skills (or absence of skills if expatriate labor is used) developed by Yemeni workers through training and work experience on the development.



# IMPACTS SUMMARY

The impact of training, even with conservative assumptions about unemployment rates and skills gained, is substantial.

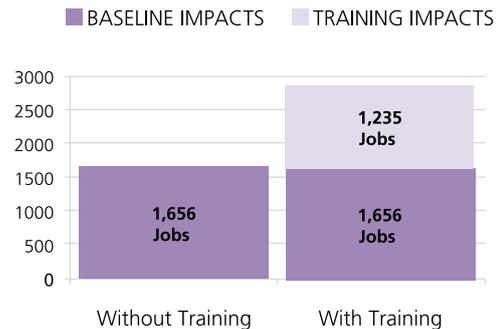
If 1,000 Yemeni workers are trained and work on the project, 650 of them are likely to remain in construction, creating an additional 585 jobs indirectly, and total earnings of YER 679 million a year (USD \$3.3 million). When combined with the baseline impacts of the hotel, retail, and personal service workers employed as a result of the project, training impacts account for 43% of the total impact on jobs and 41% of the total impact on earnings of the entire project after construction is completed.

If local labour is not trained and expatriate labour is used instead, then all of these additional impacts are lost.

- **BASELINE IMPACTS:**  
1,200 Employed (estimated)  
456 additional indirect jobs  
1,656 total jobs  
YER 974 Million yearly earnings (USD 4.8 mil)
- **TRAINING IMPACTS:**  
650 employed (estimated)  
585 additional indirect jobs  
1,235 total jobs  
YER 679 Million yearly earnings (USD 3.3 mil)
- **TOTAL IMPACTS:**  
YER 1,653 Million yearly earnings  
(USD \$8.1 Million)

This is described in more detail in the next section.

## IMPACTS WITH AND WITHOUT TRAINING



The impact of training is **1,235 jobs and 3.3 million dollars in earnings a year**. With baseline impacts of 1,656 jobs and 4.7 million dollars in earnings a year, training accounts for over 40% of the total post-construction impacts.

## IMPACTS WITHOUT TRAINED YEMENI WORKERS

Jobs	1,656
EPW (p.a.)	YER 588,395 (USD 2,883)
Earnings (p.a.)	YER 974 Million (USD 4.8 mil)

## IMPACTS WITH TRAINED YEMENI WORKERS

Jobs	2,891
EPW (p.a.)	YER 571,741 (USD 2,802)
Earnings (p.a.)	YER 1,653 Million (USD 8.1 mil)

**1 YER = .0049 USD**

Notes: baseline impacts consist of the hotel, retail, and residential employment plus indirect effects.

(p.a. = per annum)

Source: Silatech-EMSI Analysis

# TRAINING IMPACTS

Impacts resulting from training are 1,235 jobs and \$3.3 million in earnings annually.

By infusing much-needed skills into the workforce and giving workers an opportunity to put their skills to use, the impact of real estate projects in Yemen can be greatly increased. The reason for this is simple—the skills gained by the workers will have an effect long after construction ends. If, on the other hand, expatriate labour is used, those skills will be absent, and the benefits lost.

Because Yemen has a shortage of skilled labour, workers who have had training and experience with a project like Al-Rayyan Hills will be in high demand. Even if a full 35% of the 1,000 workers posited were to return to unemployment after

the project concludes rather than continuing in any form of work, the return of the skills gained is high: YER 411 million (USD 2 million) in direct earnings per year for the remaining 650 workers, as well as an additional 585 jobs created indirectly earning YER 267 million (USD 1.3 million) a year.

Fostering industry-led training initiatives, such as the Al-Rayyan Hills pilot, is worthwhile because they have potential to open the door for youth and underserved populations to enter into the workforce. The high, long-term impacts associated with the training further demonstrates the value that can be derived from these efforts. Investment in training is an investment in the skill infrastructure needed for a whole economy to thrive.

## EMPLOYMENT OPTIONS AFTER PROJECT CONSTRUCTION

After the initial project is finished, the obvious next step for trained construction workers is finding more work in Yemen in other construction projects. But if there are no jobs available, where are their skills best used?

From the point of view of the worker, their new skills in construction increase the chances of finding employment in construction outside of Yemen within the GCC. Remittances back to Yemen from these workers bring in income and utilize their skills. However, this may be a second-best solution, as empirical evidence shows that remittances do not encourage domestic entrepreneurship. Finding another occupation requiring similar skills within Yemen may be a preferable solution.

## ASSUMPTIONS

Of the 1,000 workers on the Al-Rayyan Hills project, three-quarters are considered to be laborers earning roughly YER 40,816 (US 200) a month and one-quarter more skilled workers earning YER 76,531 (USD 375) a month. After the construction period, of the 65% left in employment, two-thirds are considered to be laborers and one-third are more skilled.

Jobs multipliers: 1.9

Earnings multipliers: 1.65

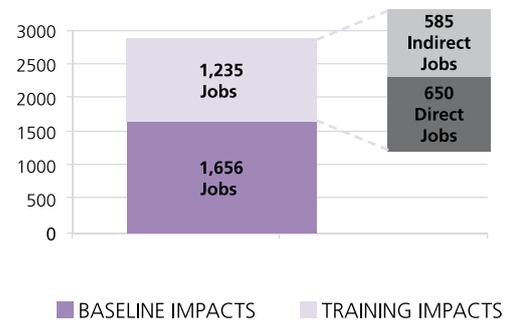
## MICRO-ENTERPRISES

The construction industry is a typical area to find individuals venturing out on their own (for example, 39% of construction workers in the UK are self-employed). By bringing construction skills into the workforce, a number of start-ups should be created as a result.

## TYPICAL WAGES FOR CONSTRUCTION WORKERS IN YEMEN

<b>Construction Labourer</b>	US \$ 10/day	YER 2,037
<b>Mason</b>	US \$ 40/day	YER 8,150
<b>Plasterers</b>	US \$ 20/day	YER 4,075
<b>Electricians</b>	US \$ 3/electricity point	YER 611
<b>Engineers</b>	US \$ 500/month	YER 101,874

## DETAIL OF TRAINING IMPACTS



<b>DIRECT IMPACT</b>	650	Jobs
	YER 632,653 (USD 3,100)	EPW (p.a.)
	YER 411 mil (USD 2 mil)	Earnings (p.a.)
<b>INDIRECT IMPACT</b>	585	Jobs
	YER 456,916 (USD 2,239)	EPW (p.a.)
	YER 267 mil (USD 1.3 mil)	Earnings (p.a.)
<b>TOTAL IMPACT</b>	1,235	Jobs
	YER 549,409 (USD 2,692)	EPW (p.a.)
	YER 679 mil (USD 3.3 mil)	Earnings (p.a.)

## TOP INDIRECT IMPACTS

INDUSTRY	JOBS
Construction	232
Wholesale and retail trade	112
Manufacturing of other non-metallic mineral products	69
OCCUPATIONS	JOBS
Labourers in mining construction manufacturing & transport	150
Extraction and building trades workers	53
Personal and protective services workers	48

Source: Silatech-EMSI Analysis

# BASELINE IMPACTS

Baseline impacts are 1,656 jobs and \$4.8 million in earnings annually.

Once the Al-Rayyan Hills Development is complete, there will be impacts associated with the resort, retail, and private residences created. An estimated 1,200 jobs will be created directly as a result of the project, earning YER 557 million (USD 2.7 mil) a year, as well as indirect impacts of an additional 456 jobs earnings YER 417 million (USD 2.1 mil) a year. These are termed 'baseline impacts' since they will be achieved regardless if Yemeni or expatriate labour is used on the project.

### ASSUMPTIONS:

The proposed hotel and associated restaurant will employ 600 workers (three employees per room—two employees per guest is typical in 5-star resorts). An additional 400 jobs will be created in personal service occupations in association with the 297 residences created, and 200 workers in retail trade.

### FURTHER TRAINING OPPORTUNITY

Many hotel and personal service workers in Sana'a are also expatriates. As with the construction phase, impacts will be lowered slightly as expatriate workers spend less locally because a portion of their wages leave in the form of remittances. While impacts are not greatly affected, expatriate workers in these jobs means fewer jobs available for unemployed or underemployed Yemeni workers. Given the scale of employment, hospitality training for Yemeni workers might be of interest.

Jobs Multiplier: 1.4

Earnings Multiplier: 1.75



# WHAT IT MEANS

## HIGH IMPACTS

The impacts of training for the Al-Rayyan Hills development are impressive, and because the skills that are brought into the workforce will persist long after the project has been concluded, dividends on the investment will be reaped for many years. Providing industry-driven training for projects such as the Al-Rayyan Hills development has the potential for high return on relatively small investments. Analysis has shown that an investment in training that enables, say, 1000 Yemeni workers to be hired over expatriates in the construction industry could yield nearly 1,700 additional jobs and \$3m to the national economy.

## BRIDGING THE GAP BETWEEN WORKERS AND INDUSTRIES THROUGH SKILLS

Because training to the needs of industries also avoids current problems revolving around employment and training in the MENA region, this type of training scheme has the potential to simultaneously improve employment prospects for workers and remove skill barriers blocking industry growth.

## WHO BENEFITS?

If this sort of training can be accomplished, benefits would be felt by all those affected.

Countries experience economic and social benefits as more skilled workers enter the workforce. Companies benefit through growth as the skills constraints lift and skilled workers meet the employment demand. Workers benefit by gaining in-demand skills and a job in the formal economy. Educational providers and community colleges benefit by having clear direction provided on what skills to train for, and a new ability to direct their students into meaningful jobs. The MENA region benefit as a new route to obtain skills and meaningful employment is opened.

“Countries experience economic and social benefits as more skilled workers enter the workforce.”

# NEXT STEPS

## **SUCCESSFUL PILOT**

In order to gain private industry confidence, a successful pilot of this sort of industry-led training must be accomplished. If the training provider cannot demonstrate positive outcomes to private industry from this sort of training arrangement, there will be little scope for further work. Conversely, strong success in initial projects will open up further opportunities.



## **COST/BENEFIT ANALYSIS OF TRAINING**

While the benefit of training to workers and their countries is established in this study, the benefit to companies is not addressed. Upon completion of a pilot, a second piece of analysis should be undertaken comparing the cost/benefit of trained local labor to imported foreign labor from the perspective of the companies that employ them. If trained local labor proves more cost-effective for companies, then training is a viable option for companies. If it proves less cost-effective, then possible funding structures should be explored that would defray the excess costs incurred by training, making the training an attractive option for companies.

## **BUILDING A QUALIFICATION FRAMEWORK**

The ability of workers to assure companies of their knowledge of construction is necessary for them to gain meaningful work after the initial project that they were trained for has ended. A qualification framework needs to be created that can act as a skills passport throughout the MENA region, allowing workers to assure potential employers of their competencies.

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# ABOUT

## ABOUT SILATECH

Silatech is an innovative initiative engaging the private, public and civil society sectors to promote large-scale job creation, entrepreneurship, and access to capital for young people. It is intended to help address the critical issue of youth unemployment, a serious and growing challenge impacting countries throughout the Arab world. With the support of His Highness the Emir of Qatar and Her Highness Sheikha Mozah bint Nasser Al Missned, Silatech was first announced in 2008 at the UN Alliance of Civilizations Forum in Madrid and launched in June 2008 at the first Doha Summit. More information can be found at [www.silatech.com](http://www.silatech.com).



## ABOUT EMSI

EMSI is an economics consulting firm that provides integrated economic and labor market data, web-based analysis tools, data-driven reports, and custom consulting services. EMSI specializes in detailed information about regional economies for assessment and planning purposes, bringing together industry, workforce, economic development, and education/training perspectives. More information can be found at [www.economicmodeling.com](http://www.economicmodeling.com)



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