Solid-State Circuits Society

Strategy Plan 2016 – 2020

Version: 1.1/Mike Beunder

Date: March 20th, 2016

Table of Contents

Section 1: Executive Summary

The Solid-State Circuits Society has, based on a thorough analysis of its position today, set itself a set of ambitious goals for 2020. The four goals it has defined are based on its mission to serve and recognize professionals active in the field of Solid-State circuits and provide the best career guidance and education for students and [young] professionals. In order to achieve these mission goals by 2020 the Society has also recognized the need to rigorously improve its organizational efficiency, transparency and effectiveness and has defined two goals related to its functioning.

Central to these six goals and its efforts are the need to reach future members, todays millennium students. As these students are connected to channels very different from those used by today's Solid-State Circuits Society, familiarizing them with the field, its attractions and its opportunities has become a fundamental challenge, which has also exposed the outdated structure and slow moving decisions process and related communications. This constitutes the most important threat to the Society's future success and ability to remain a pivotal value provider in the world wide community of Solid-State circuits' professionals: delivery of value, attracting young professionals,

To maintain and even grow its existing membership among Solid-State circuit professionals it is necessary to continuously and ambitiously drive its flagship products while at the same time developing new products and new ways of delivering these using todays and tomorrow's media channels.

With the strategy defined, the period 2016 through 2020 will be focused on execution. The approach chosen, each goal having a dedicated owner ("Guardian") and support team and with an infrastructure that supports easy transfer from one owner to another, continuity of effort and dynamics is sought. With progress being tracked along its three key axes (Professional Development, Education and Operational Excellence) through KPIs and a society status dashboard, a balanced growth towards its goals must be managed to ensure a balanced budget allocation to the different new initiatives and programs and avoiding a skewed and tilted result.

Document legend

This strategic plan for the Solid-State Circuits Society is the result of an effort by many participants, both individually and in groups. In random sequence, here are the key contributors to the 2016-2020 strategic plan who have spent significant time working and discussing the plans over the previous 12 months:

1. Education team: Emre Ayranci, Bill Bidermann, Willy Sansen, John Long;
2. Professional Development and Recognition: Rakesh Kumar, Kenneth O, Jan van der Spiegel;
3. Operational Excellence: Bram Nauta, Mike Kelly, Mike Beunder

The work of the above teams was further coordinated and merged by Michael Kelly and myself. Additional input on the finances has come from Shekar Borkar.

The input from both AdCom and Chapter Leaders has been extremely valuable. Many excellent suggestions came from these groups and specifically the feedback sessions at the AdCom and ISSCC in February 2015 were very valuable.

March 2016, Mike Beunder

Motivation

This work was initiated under the presidency of Bill Bidermann (2014 – 2015). In preparation for the regular IEEE society review it was decided to establish a more organized effort to create and drive a strategy that would be based on a set of clearly defined goals over a longer period of time. Not only should this result in a more consistent execution, it should also lead towards a more consistent allocation of budget towards new initiatives and, when successful, new programs that would deliver more value to the SSCS members.

Kick-off of the strategy work was in September 2014 with a presentation to the AdCom in which the approach and timeline for the strategy work was presented.

Process

Before starting, a number of discussions took place with Bill Bidermann, Rakesh Kumar, Jan van der Spiegel and Peter Kinget to ensure the proper foundation of the strategy work. Fundamental to the approach was the three axis approach along which the future of the Society would be mapped. The axes chosen were Professional Development, Education and Operational Excellence. Fundamental to the choice of these three axes was the value proposition towards its members, with Professional Development and Education as the two dominant fields in that value proposition. In addition, it was clear that the quality of SSCS as an organization was, in more than one aspect, inferior to today's requirements, let alone those of 2020, the target year for SSCS's strategy. Achieving the objectives over a period of 4 years (2016 – 2020) would only be possible if SSCS as an organization would be able to increase its performance, hence the decision to include it in the strategy program of the Society with clear set goals for its performance and capabilities [by 2020].

The process started with the definition of a set of goals for the year 2020, driven by the vision and mission and input from AdCom and Chapter Leaders. The (large) set of goals was reduced to a set of overall (consolidated) goals categorized along the three axes. This step was followed by a SWOT analysis for the Society in its current setting (2014/2015). Subsequently the teams identified strengths in combination with specific opportunities, connected these with one of their target goals and identified the KPI(s) that would track the progress from the current state towards achieving the goal in 2020. At the same time relevant weaknesses and threats were identified as being countered by the process. As important, a SWOT analysis for the 2020 Society was also made, and a second iteration was run to ensure that progress along the path 2016-2020 would appropriately use these settings to adjust any goal settings as well as KPIs to create the best possible position for the Society.

For both SWOT analyses, a consolidation was run to make it usable as a model for generating (shared) KPIs. The complete sets (before and after consolidation) are to be found in the appendix of this document.

Section 2: SSCS in the Year 2020 – An Elevator Pitch

SSCS is the world leading source of technical information and networking opportunities in the field of Solid-State circuits and systems/network on a chip. Members value the quality of SSCS technical publications, and opportunities for networking, education and professional development offered by the SSCS and its sponsored activities (conferences, workshops, courses, etc.).

The yearly SSCS awards, presented to professionals and academics from the Solid-State circuits world, are an integral part of the three key international Solid-State circuits technical conferences (held in the USA, Europe and Asia). These SSCS awards are regarded as the most prestigious professional recognition to be granted by peers from the Solid-State circuit industry and academy.

In addition, SSCS has gained international recognition for its innovative approaches to introduce young students (starting at junior High School) to the world of Solid-State circuits. Not only has it lowered the barrier by making complex Solid-State circuit themes accessible to High School students, but it has introduced Solid-State tear-down projects that enables students to reach beyond the surface of complex gadgets and understand the crucial role of Solid-State circuits in its functioning.

The already close cooperation between industry and academia in the field of Solid-State circuits has been boosted in a structural way by connecting students in the field early on with mentors in the industry, enabling what is today known as the Young Professionals highway to success. It provides the students in the Solid-State field early on with direct and personal advice on key steps in their career path as young professionals.

Section 3: SSCS Vision and Mission Statements

It is customary to revisit Vision and Mission statements every now and then to ensure that they still reflect the core essentials of the Society. At the start of the strategy process the following statements were established:

Vision: To develop and recognize our members in the field of Solid-State Circuits through highly relevant information, products and services.

Mission: To enhance the industry and academic careers and lives of Solid-State Circuits professionals through Education, Networking, Communication and Recognition for the benefit of Society.

Section 4: SWOT (2016) – Our departure position

The overall SWOT analysis as produced by the three teams comprised close to 60 elements. It is beyond the scope of this document to discuss each and every element (the complete SWOT 2016 is available in Appendix A). Instead a condensed version of this SWOT is used where the most important elements are briefly discussed in this section. The condensed version has been obtained by merging and rephrasing elements, removing overlap between the elements.

The condensed SWOT 2016 counts 26 elements. Elements have been sorted out according to their axis (Education, Professional Development and Operational Excellence) with elements sometimes covering two or even three axes. Next, a representative summary of the Strengths, Weaknesses, Opportunities and Threats will be covered.

Strengths – current strengths of the Society are all directly related to its leading position in the technical field of Solid-State circuits, its flagship conferences, its journals, its Distinguished Lecturer Program, Chapter meetings and network environment for professionals.

Weaknesses – highest concern received the lack of the Society's connection with the younger generation, the lack of reach beyond its current "borders" and attract students into the field. Not only the absence of programs to address this problem was identified as a key weakness, but also the outdated infrastructure and a slow reacting organization. In particular organizational aspects such as lack of structured programs, slow response and a lack of an effective connection with the operations side of IEEE were highlighted. Last but not least, the Society is not effective in leveraging its most valuable resources as part of programs that would create more value to its members as well as attracting new members.

Opportunities – going forward, opportunities abound in reaching beyond current boundaries with specific focus on students and younger audiences. Specific examples are the use of high-end popular gadgets and the role Solid-State circuits play in them. Here updated infrastructure should enable the quick

and easy creation of platforms to bring such content to a target audience that is used to Facebook and YouTube. In the same spirit, educational and career relevant content should be grown substantially to provide more and better value to our members. Where relevant, sister societies should be enrolled to jointly create value to multiple groups of members.

Threats – the most potent threat is thought to be the lack of dynamics on the side of the Society. Its lackluster approach to creating more value to members and its lack of connect with the next generation members will further accelerate membership decline, often in favor of the software community with its "quick app" success stories. This general trend has to be convincingly stopped and turned around to guarantee the survivability of the Society beyond 2030.

The creation of SWOT 2016 and the goal settings for 2020 were, in fact, two separate processes and were accomplished in two separate sessions to ensure that they could be as independent of each other as possible. The next section will cover the goals for 2020.

Section 5: Goals 2020

For each of the three axes goals were defined by the three teams during individual discussions. Taking the three sets of goals (a total of 24 individual goals) a consolidation process was used to boil down to a set of 6 goals, for each axis two goals. The consolidation process was partially driven by condensing multiple goals into one that would address a known set of weaknesses (from SWOT 2016) by building on existing strengths to counter know threats. At the same time, the each condensed goal should also link back to one or more known opportunities. The goals are listed underneath:

Goal #1 - /ATTRACT/ - SSCS has created a set of tools and activities that demonstrate the "cool" character of EE, the exciting career prospects and has actively deployed these tools and activities through at least 10 student chapters.

Goal #2 – /EDUCATE/ - SSCS is recognized by its target audience through its professional development programs (soft skills as well as technical skills), (career) mentoring and coaching programs and training delivered through innovative services that are in close cooperation with the industry.

Goal #3 – /SERVE/ - SSCS is recognized by its members for its flagship conferences and journals, its annual list of most influential papers, educational webinars, sessions and forums and valuable network opportunities offered through its local chapter events and global conferences and workshops.
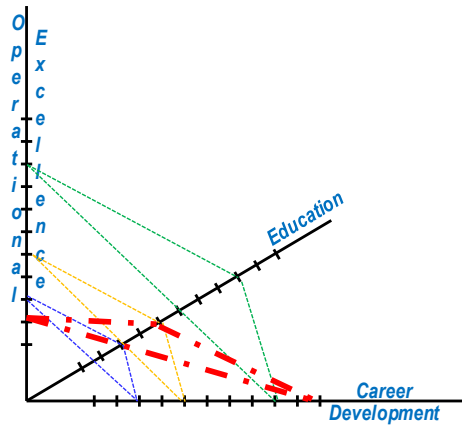
Goal #4 – /RECOGNIZE/ - SSCS's recognition of volunteers, outstanding industry and academic contributors through existing IEEE and new SSCS-specific awards in a way that is exemplary to its peer societies and highly valued by industry.

Goal #5 – /EFFICIENCY/ - SSCS has established a standardized infra-structure for conference and workshop organization which covers the full process, from initial mailing to paper submission and (self) plagiarism checks, acceptance mailing, electronic digest creation and presentation collection.

Goal #6 - /TRANSPARENCY & ACCOUNTABILITY/ - SSCS has an established strategy planning and review process with regular progress reports which include KPI tracking and peer society comparison. SSCS volunteer and professional staff have clearly defined responsibilities and all activities under SSCS are transparent, trackable and accounted for under its strategic plan.

Each goal has as a way of identifying its essential focus, a second qualifier attached, ranging from "ATTRACT" to "EFFICIENCY" to ensure that not only impact is clear but also as a way to indicate how progress [thru KPIs] will/should be measured. As an engineering organization, the adagio "to measure is to

know" is the core ingredient for this strategy document. Not only do we want to set clear goals that directly relate to our core values, we also want to make sure we can track our progress towards those goals and take corrective action if progress is not satisfactory or even complete absent. As important, unbalanced progress is also a key concern – we cannot expect to grow along the Education and Professional Development axes, without making equal progress along the Operational Excellence axis. Unbalanced growth will reduce or even negate progress the Society intends to take towards its 2020 goals.

Clearly, apart from the goals, two other parts are essential in the roll-out of the strategy: the intermediate goals [between today and 2020] and the KPIs that track the Society's progress towards fulfilling its 2020 goals. KPIs are addressed in the next section.

Separately, it is important to realize for each and every activity within our strategy, what the target audience is. The strategy team did a careful dissection of our generic audience to ensure that each and every program can use the right means to reach the right target audience. Target audience is addressed in section 7.

Section 6: Key Performance Indicators (KPIs)

As part of the goal specification process an additional list of 31 KPIs has been created. As part of the consolidation process this number has been reduced to 18. This reduction is based on selecting only "major" KPIs (those related to the final goal) as well as not listing KPIs that focus on intermediate goals or KPIs that would create too much of a "straightjacket" to the teams implementing the strategy and stifling their innovation. The initial set of overarching KPIs are provided in the following table and are attached to their specific 2020 goal.

	KPIs	ATTRACT #1	EDUCATE #2	SERVE #3	RECOGNIZE #4	EFFICIENCY #5	TRANSPARENCY #6
#1.	Number of student chapters involved	x					
#2.	External world demonstrators of cool character of solid state circuits	x					
#3.	No less than 12 circuit webinars		x				
#4.	Number of Mentors		x				
#5.	Number of Students being mentored		x				
#6.	Annual list of most influential papers - downloads/purchases			x			
#7.	Number of local chapter events			x			
#8.	Chapter activity status (zombie, alive, high-active)			x			
#9.	Number of Senior Member Additions				x		
#10.	Number of Fellow Member Additions				x		
#11.	Rising star and YP award program				x		
#12.	Best Master Thesis Award (per University)				x		
#13.	SSCS Industry Member Recognition Program				x		
#14.	KPIs attached to defined conference infrastructure and best practices (as defined by survey 20160					x	
#15.	Required effort (person days) to get a conference system up and running as defined by survey					x	
#16.	Number of conferences and workshops using SSCS conference infrastructrure					x	
#17.	One-page dashboard/strategic outlook with the whereabouts of the Society - tracking the strategic goals as well as operational data						x
#18.	Complete SSCS operations manual (staff and volunteers)						x

The KPIs are abbreviated for format reasons. Direct tie-ins with for instance target audience is not listed in the above table (for instance KPI#2 "External world demonstrators" are explicitly tied to Jr HS and HS audience). The goal teams starting per January 2016 (refer to section on Execution) will also define additional KPIs and/or modify existing KPIs to serve their purpose better with respect to tracking progress. These KPIs will also become available (and trackable) through the SSCS dashboard.

Section 7: Target Customers

SSCS has a membership base, starting with students, to young professionals, the early-, mid- and late career path and finally, retirement.

Age:	10	15	20	25	35	45	55	65
Years from EE:	*-15*	*-10*	*-5*	*0*	*10*	*20*	*30*	*40*
	Jr HS	HS	Univ.	YP	Early/Mid Career	Mid/Late Career	Late Career/ Early Retirees	Retirement

Our members are active in academic and industry communities. SSCS goals and supporting activities, as defined in the previous sections, are directly based on the needs, today and over the next five years, of these members. SSCS's programs include the necessary activities to familiarize the general public with the importance of Solid-State circuits and their impact on daily life. Similarly, it has programs to highlight the career possibilities, benefits and rewards within the Solid-State industry.

| Age:	10	15	20	25	35	45	55	65
Years from EE:	*-15*	*-10*	*-5*	*0*	*10*	*20*	*30*	*40*
	Jr HS	HS	Univ.	YP	Early/Mid Career	Mid/Late Career	Late Career/ Early Retirees	Retirement

Awareness programs to make the general community more familiar with electrical engineering (EE) in general and Solid-State circuits specifically, will focus on high school students, creating the awareness and ensuring that when entering university students will more consciously and actively contemplate a career in Solid-State circuits. Effectiveness of these programs will be visible in a growing number of students choosing Solid-State circuits and with that a further appreciation from industry and academic world.

Age:	10	15	20	25	35	45	55	65
Years from EE:	*-15*	*-10*	*-5*	*0*	*10*	*20*	*30*	*40*
	Jr HS	HS	Univ.	YP	Early/Mid Career	Mid/Late Career	Late Career/ Early Retirees	Retirement

SSCS programs for membership growth will focus in particularly on university students and young professionals. These programs build on the success of the increased awareness as well as the increase in students. By focusing our membership efforts on the students and young professionals we are able to recap our investments in the awareness programs and further grow them. Success here will also broaden our industrial and academic support and increase our capabilities to provide new services to early-, mid- and late career professionals.

Section 8: Execution

Given the duration and the breadth of SSCS's strategic outlook as well as its changing core of volunteers the approach chosen for execution was based on one owner per goal with each goal owner supported by a small team. The overall process is coordinated through the AdCom Secretary and a direct link to the Society's President. In addition, the President Elect is tied in to the process to ease transfer after the President's tenure ends. In addition, to make the process as decentral as possible, each goal owner ("Guardian") is responsible for finding
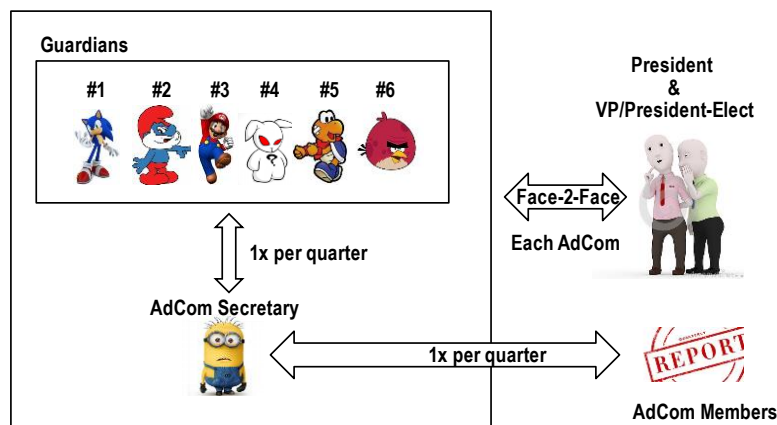
a replacement if he/she decides to step down. During the selection process selected goal owners have been asked to commit for at least one year but preferably for two years. A specific infrastructure has been

setup to enable proper coordination, tracking of progress and a simple transfer process when a new Guardian comes in. All Guardians work within the same framework, set by the work done by the strategy team. However, within that framework the Guardian, with his/her team, has full flexibility (and responsibility) in implementing the path towards his/her goal. Specifically, the launching of new initiatives, obtaining funding for these initiatives, tracking progress and when successful converting them into official programs. The overall progress will be captured and tracked through the Society's dashboard (another KPI under Goal #6/Transparency). Reporting on progress will

take place quarterly through e-mail and through presentation every 6 months at the AdCom meeting.
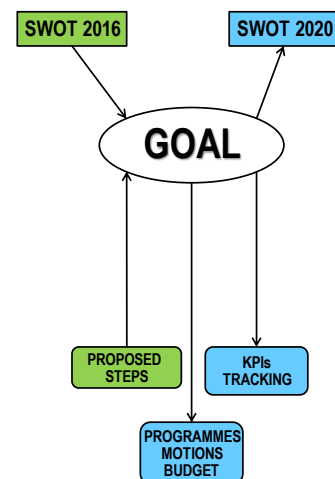
Section 9: Competitive Analysis

The Society's competition is not "the usual story". Rather than seeing its customers depart for another organization offering similar services (unlike IEEE's Computer Society which competes directly with ACM) SSCS has little or no competition from other organization with the exception of national engineering societies such as the IEE (UK) or KiVi (Netherlands) which do not have the scale of services nor the reach of a Society like SSCS.

The most formidable competition is coming from the internet itself where free content of educational and professional development is easily accessible, some of it for free, some of it at low cost. The quality and delivery is competitive with IEEE's today's capabilities and often surpasses it due to the slow progression of a large organization like IEEE. When typing "circuit design" into YouTube's search engine the first 50 results do not include any IEEE/SSCS material, a far cry from for instance typing in "High speed domino logic design" in Google's search engine which has IEEE's explore in the top 5 on the first page. Obviously interactive engagement is where High school students today look for information on topics they're not familiar with. Here IEEE [and SSCS] are outpaced by companies (lots of Intel and Synopsys content for instance) and academia (universities putting their lectures online).

It is clear that within the familiar boundaries of our Society and its members we have done a good job in providing the services that they expect. Our challenge, as already identified in the previous sections, is to reach beyond our familiar boundaries and create an appeal to (junior) high school students that matches and surpasses their expectations (not ours!). This is probably the most serious challenge for our 2020 strategic outlook as we have to think (and operate) outside of our own boundaries.

Section 10: Team

The initial team (Guardians), as presented at the AdCom on January 31st, 2016 is listed underneath. It includes both ex-President Bill Bidermann and President-Elect Bram Nauta which provides excellent continuity as both have also been part of the initial strategy activities.

#		Name	
1	**ATTRACT** SSCS has created a set of tools and activities that demonstrate the "cool" character of IC design, the exciting career prospects and has actively rolled out these tools and activities through at least 10 student chapters.	**STEFAN RUSU**	EDU & PD/R
2	**EDUCATION** SSCS is recognized by its target audience through its professional development programs (soft skills as well as technical skills), (career) mentoring and other programs and training delivered through innovative services that are in close cooperation with the industry.	**ALI SHEIKHOLESLAMI**	EDU & PD/R
3	**SERVE** SSCS is recognized by its members for its flagship conferences and journals, its annual review of most influential papers, educational webinars, sessions and courses and valuable network opportunities offered through its local chapter events and global conferences and workshops.	**BRAM NAUTA**	EDU & PD/R & OE
4	**RECOGNIZE** SSCS's recognition of volunteers, outstanding industry and academic contributors through both IEEE and new SSCS-specific awards in a way that is exemplary to its peer societies and highly valued by industry.	**BILL BIDERMANN**	PD/R
5	**EFFICIENCY** SSCS has established a standardized infra-structure for conference and workshop organization which covers the full process, from initial mailing to paper submission and review/plagiarism checks, acceptance mailing, electronic digest creation and presentation collection.	**BILL BOWHILL**	OE
6	**TRANSPARENT AND ACCOUNTABLE** SSCS has an established strategy planning and review process with regular progress reports which include KPI tracking and peer society comparison. SSCS volunteers know their roles and responsibilities and corresponding activities under SSCS are transparent, trackable and accounted for under its strategic plan.	**MIKE BEUNDER**	OE

Crucial to the efficient and effective functioning of the Guardians is going to be the connection with the IEEE SSCS staff. A number of steps have already been made (for example the implementation of the motion tracker which enables AdCom members to track the progress of their motion through the "dark" side of the IEEE organization). However, as also driven by goals #5 and #6, there will be much more loading on the professional staff part of the SSC Society in the path from 2016 to 2020. As has been pointed out in the first part of this document, volunteers and professional staff have to work as one well integrated organization with all the responsibilities and accountability for all involved, in order to accomplish the goals set for 2020.

Appendix A: SWOT 2016 (Complete Listing)

In order to provide not only the consolidated views but also the complete data set behind the consolidated views, the appendices will list the results of SWOT 2016, Goals 2020, SWOT 2020 and KPIs before consolidation.

EDUCATION	PROFESSIONAL DEVELOPMENT	OPERATIONAL EXCELLENCE
2016	**2016**	**2016**
STRENGTHS		
Complimentary ISSCC tutorials and short courses	SSCS has the Leading BRAND	leading technical field
SSCS live and recorded Webinars	SSCS serves a SELECT COMMUNITY	JSSC and ISSCC are examples of best practice
Distinguished lecturers		Ability to replicate successful conference model to smaller conferences & workshops
Student travel grants, YP volunteer travel grants, Pre-doctoral achievement awards		
Highly developed conferences and on-line journal		
Motivated and willing cadre of volunteers		
Chapter meetings with speakers		

EDUCATION	PROFESSIONAL DEVELOPMENT	OPERATIONAL EXCELLENCE
2016	2016	2016
WEAKNESSES		
Direct benefits that would motivate new members to join and current members to keep their membership.	We serve a limited auduence	Link with IEEE itself is weak and fuzzy
Declining membership and industry participation	We are not in touch with the younger generation	The general IEEE dues are very high wrt socity dues
Poor visibility outside of our community (ICs are "invisible")	Poor use of technology to reach the younger generation	Really, There is little reason for individuals to become IEEE member while employer has already acess to periodicals and discount to conferences goes to the employer.
Don't know exactly what our members value	Lack of Career Development programs	No real electronic infrastructure
	We are not leveraging our most valuable resource enough for coaching and mentoring the younger	Operations AdCom/Staff is haphazard and hinges often on personal initiatives (and not on an established framework)

EDUCATION	PROFESSIONAL DEVELOPMENT	OPERATIONAL EXCELLENCE
2016	**2016**	**2016**
OPPORTUNITIES		
More tutorials on new emerging technologies, circuit design that address students about to chose their direction, historic and/or generic perspective as these will also attract more students	Expand offerings to attract more Practitioners, YP's, GenC, entry level UG's	Use more of IEEE services & strenghts
Organize a forum (at the conference?) to invite members to attend the webinars	Expand use of social media and technology	Bring our best practices to IEEE for broader use
Widen the DL pool and coverage of fields, Invite/share DLs with neighboring technical fields/societies	Expand education material in SSC and multidisciplinary areas	offer our SSCS members special benefits, which they do not get via their employer subscription.
Focus on the cool factor and motivate undergraduates for SSCS through practical examples such as chips in iPhone, drones, etc. Create a web-based platform allowing students to gain "basic" hands-on experience in sold-state circuits design, Video explaining IC design (animation) and application of ICs in cool gadgets, Use social media (e.g. YouTube)	Expand training in "soft skills"	
Take the MOOC videos from ISSCC and provide to SSCS members on SSCS web site;	Expand Career Development programs	
Connecting new delivery methods for our content with our members	Communicate the continued need for SSC knowhow to keep the "technology revolution" going	
Recruiting new members with attractive education opportunities	Communicate jobs availability and career opportunities	
Increase our visibility and relevance generally through a better educated public and scientific community	Add coaching and mentoring programs	

EDUCATION	PROFESSIONAL DEVELOPMENT	OPERATIONAL EXCELLENCE
2016	**2016**	**2016**
THREATS		
More students prefer software vs hardware	Losing ground to CS, Robotics and other fields for UG students	loose members
We are losing the PR war with other nanotechnologies	We serve a limited audience	IEEE takes our money
Others may do it better and eat our market share	Perception that SSC's jobs are not available	Printed journals will altogether disappear
Industry participation drops below critical mass	Perception that SSC is hard, and is not needed with availability of Arduino etc.	Link with IEEE strategy will not materialize
	Perception that SSC innovation is not necessary	
	JSSC metrics under pressure - no longer #1 in downloads, and citation index issues	

Appendix B: Goals 2020 (Complete Listing)

The following two tables present the initial group goals (raw version) followed by the first condensed version where goals are grouped according to themes and, where possible comprised into a single statement (sometimes with a somewhat broader scope).

EDUCATION	PROFESSIONAL DEVELOPMENT	OPERATIONAL EXCELLENCE
2020	**2020**	**2020**
Increase the quantity and quality of Webinars	SSCS has developed a set of tools/activities to inform and engage Middle and High School students about EE	CONFERENCES: On-line infra-structure for conference organization including mailing lists, key dates. Paper submission system and (self)plagiarism checks
Focus on the cool factor and motivate undergraduates for SSCS through practical examples	SSCS has at least 10 Student Chapters involved in these programs and provide them with set of tools/talks to show to EE is "Cool" and a viable career option	OPERATIONS: AdCom processes track, trace and communications providing full transparency at all times regarding resolutions, motions and action items.
Mentoring, career, resume, interview coaching, conference and journal paper guidance by AdCom, DLs, etc.	SSCS is recognized for its value to members - activities and tools to Broaden Technical Skills, Career Dev	OPERATIONS: Group (SSCS+) Strategic Planning in symbiosys with IEEE organization with Strategic Plan 2021 - 2025
SSCS online forum,where members can ask questions about publications and technical subjects, society experts and other members responds and discuss. . Can use Collabratec	SSCS is recognized for its value to members - activities and tools to Broaden "Soft" Skills, Career Dev	OPERATIONS: Established evaluation system covering AdCom and Society Staff integration to increase the efficiency and effectiveness of operations.
We could make a "best of" list of papers and ideas every year or list "what the Fellows are reading" Might help students identify influential/best papers to spend time on.	SSCS has an established Coaching, Mentoring, Career Guidance program serving not less than 2% of the membership	MARKETING: Society operations focused on maximizing services to its members
Participation in SSCS Education Activites increased by (e.g.) 15%	Increased Recognition of industry and academic Technical and volunteer contributions New awards ("Rising stars",…Note: Not too many!!) Increased # of SM and Fellows Increased publicity of SM and Fellows	
Greater visibility of SSCS in wider IEEE community (educating our peers)	Increased participation from late career, experienced individuals to help in GenC/Coaching/Mentoring/Career Guidance and other activities	
Increase industry participation	Make available Training material, Webinars, Workshops etc.	
Stimulate retraining and skill renewal		
Improve impact and quality of our publications		

EDUCATION	PROFESSIONAL DEVELOPMENT	OPERATIONAL EXCELLENCE
2020	**2020**	**2020**
Focus on the cool factor and motivate undergraduates for SSCS through practical examples	SSCS has developed a set of tools/activities to inform and engage Middle and High School students about EE SSCS has at least 10 Student Chapters involved in these programs and provide them with set of tools/talks to show to EE is "Cool" and a viable career option	
Greater visibility of SSCS in wider IEEE community (educating our peers) Increase industry participation	SSCS is recognized for its value to members - activities and tools to Broaden Technical Skills, Career Dev SSCS is recognized for its value to members - activities and tools to Broaden "Soft" Skills, Career Dev	CONFERENCES: On-line infra-structure for conference organization including mailing lists, key dates. Paper submission system and (self)plagiarism checks
Mentoring, career, resume, interview coaching, conference and journal paper guidance by AdCom, DLs, etc.	SSCS has an established Coaching, Mentoring, Career Guidance program serving not less than 2% of the membership	OPERATIONS: Group (SSCS+) Strategic Planning in symbiosys with IEEE organization with Strategic Plan 2021 - 2025
	Increased Recognition of industry and academic Technical and volunteer contributions New awards ("Rising stars",...Note: Not too many!!) Increased # of SM and Fellows Increased publicity of SM and Fellows	OPERATIONS: AdCom processes track, trace and communications providing full transparency at all times regarding resolutions, motions and action items. OPERATIONS: Established evaluation system covering AdCom and Society Staff integration to increase the efficiency and effectiveness of operations.
Participation in SSCS Education Activites increased by (e.g.) 15% Stimulate retraining and skill renewal SSCS online forum,where members can ask questions about publications and technical subjects, society experts and other members responds and discuss. . Can use Collabratec. Increase the quantity and	Increased participation from late career, experienced individuals to help in GenC/Coaching/Mentoring/Career Guidance and other activities Make available Training material, Webinars, Workshops etc.	MARKETING: Society operations focused on maximizing services to its members

Appendix C: SWOT 2020 (Complete Listing)

Underneath the SWOT 2020 is presented. Given that this part of the SWOT analysis was certainly harder to perform, it has been made part of the progress tracking to update the SWOT 2020 on a yearly basis.

EDUCATION 2020	PROFESSIONAL DEVELOPMENT 2020	OPERATIONAL EXCELLENCE 2020	EDUCATION 2020	PROFESSIONAL DEVELOPMENT 2020	OPERATIONAL EXCELLENCE 2020
STRENGTHS			**WEAKNESSES**		
Attractive to new members	SSCS serving an expanded community	leading technical field	Declining membership and/or industry participation (may continue anyway)		IEEE will still be burocratic and internally oriented
We deliver what our members value	Expandind SSC interest among UG and G studentss	JSSC and ISSCC are examples of best practice			
Relevance and value of solid-state circuits defined to the outside world	Increased participation from YP, mid and late career professionals	efficient organization of meetings, conferences, periodicals of SSCS			
Member participation					

EDUCATION 2020	PROFESSIONAL DEVELOPMENT 2020	OPERATIONAL EXCELLENCE 2020	EDUCATION 2020	PROFESSIONAL DEVELOPMENT 2020	OPERATIONAL EXCELLENCE 2020
OPPORTUNITIES			**THREATS**		
Interview our most cited authors, most frequent conference attendees			Others may do it better and eat our market share	Reduced membership if programs are not successful	loose members
Improve outside IEEE access to our compendiums e.g. RFIC;			Industry participation drops below critical mass	We stay 'narrow' by serving only a select community	IEEE takes our money
Join with EDS to create education on device physics/circuit design; Educate teachers in engineering; Lab tours for teachers; Employ DLs to show where things happen; Lab tours - R&D places where things happen; "Image of Engineering" - promote YouTube or even TV documentary on how EE has solved high profile problems;				Obsolecence	

Appendix D: KPIs (Complete Listing)

The full list of KPIs as generated by the strategy team is listed underneath. .

ATTRACT #1	SERVE #2
Number of student chapters involved	Our materials used by X of the top 10 attendees of our conferences.
	No less than 2 programs
	No less than 12 circuit webinars
	Number of Mentors
	Number of Students being mentored

SERVE #3	RECOGNIZE #4
Number of publications: currently at 6	Senior member additions (today: 1040) - 10% per year growth
Articulating the publication strategy - define KPIs	Fellow member additions
Annual list of most influential papers - downloads/purchases	Formulate a rising star and YP award - make them KPIs
Local chapter events	Formulate a best master thesis award from SSCS which can be granted on a per university basis
Number of chapter awards for SSCS events	Formulate a volunteer award program (addressing a large number of people)
Chapter activity status (zombie, alive, high-active)	Award for ambassadors bringing in the most new (fellow/senior) members
Articulate the meeting strategy (including geography) - define KPIs	Fellow and senior member award in download papers etc.
	Industry member recognition - define how to make it valuable

EFFICIENCY #5	TRANSPARENCY #6
Team to survey and subsequently define the conference infra-structure as well as best practices (inclding those available from IEEE); define KPIs for the system and for its introduction	One-page dashboard/strategic outlook with the whereabouts of the Society - tracking the strategic goals as well as operational data
SSCS e-mail policy	Operations manual
Self plagiarism = submitting one paper to multiple conferences (and get accepted); will be kicked out of both conferences	Meeting minutes go up in draft format within 2 weeks after the meeting
Effort to get the system up and running per conference	
Systeem meeting x% of the functionality criteria	
How many other conferences and workshops are using it	
Sharing best practices for conferences and workshops: # of downloads	